THE OIL WEEKLY

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The Oil Man's Calendar

SEPT.	
8–12	American Chemical Society, Atlantic City.
17–19	National Petroleum Association, Atlantic City.
OCT.	
2– 3	West Virginia Oil & Natural Gas Association, Clarksburg.
6– 9	National Safety Congress, Chicago.
9–11	Texas Mid-Continent Oil & Gas Association, Beaumont.
16–17	American Association of Petroleum Geologists, Pacific Section, Los Angeles.
16–18	American Institute of Mining & Metallurgical Engineers, Petroleum Division, Dallas.
20–22	National Stripper Well Association, Tulsa.
20–22	Independent Petroleum Association of America, Tulsa.
30–31	American Institute of Mining & Metallurgical Engineers, Petroleum Division, Los Angeles.
31	California Natural Gasoline Association, Los Angeles.
NOV.	
2– 7	American Petroleum Institute, Annual Meeting, San Francisco.
DEC.	
3	New Mexico Oil & Gas Association, Artesia.
5	Oklahoma Stripper Well Association, Tulsa.

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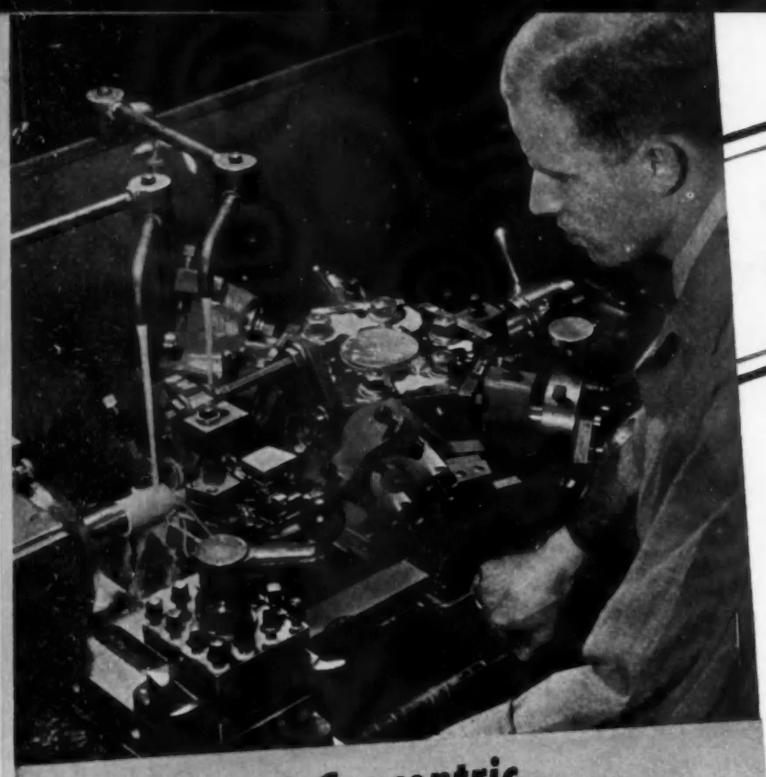

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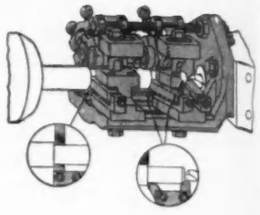

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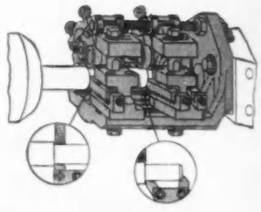

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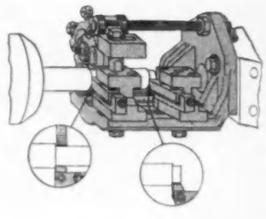
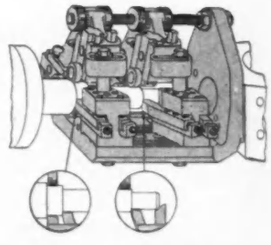


Turn Three Diameters and Chamfer—front cutter block is reversed because diameters are close together—rear cutter block holds turning and chamfering cutter—front rolls set behind first cutter to burnish—rear rolls pilot on second diameter.



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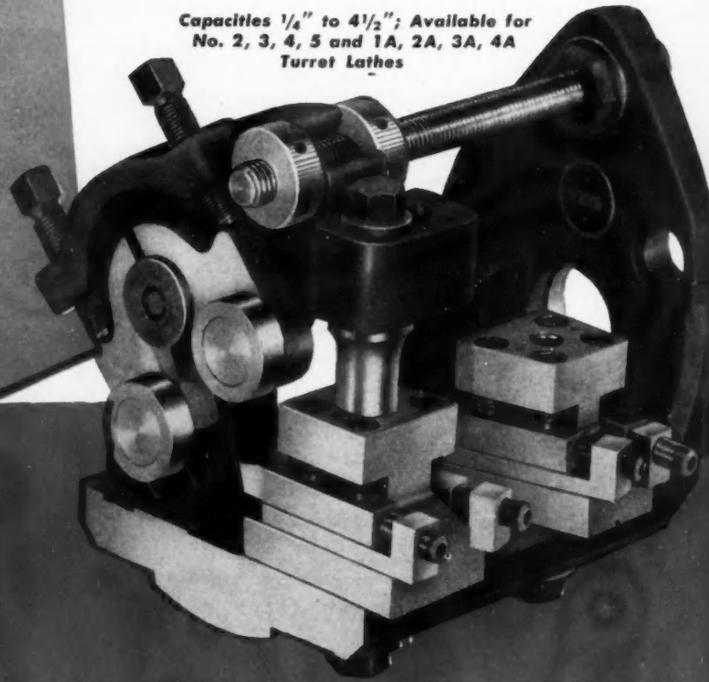

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The Changing Panorama

Drilling Activity Takes Big Spurt

Likely to continue at high rate, unless curtailed by equipment shortage

Figures presented elsewhere in this issue indicate a spurt in completions and rigs running in July—an increase predicted in THE OIL WEEKLY's forecast for the second six months of the year published July 14. July completions were not only running far above the average for the year, but were 12½ percent over the completions of July, 1940. Active rigs in operation on August 1, 1941, showed an increase of 13.7 percent over August 1, 1940.

Why the increase?

In part the increase is caused by the fear that drilling may be curtailed by some sort of official action and operators desire to get lease requirements taken care of; crude prices probably have had an effect; the thought that a larger well allowable may be given also has had its effect, and finally there is a good market for most of the oil offered.

Three states are responsible for most of the increases noted. Pennsylvania has responded most actively to a strong demand for lube-bearing crude. Kansas and Oklahoma have responded to the fear current some time ago that Illinois might show a drastic falling off. These reasons in addition to the general reasons already given.

At the first of the year THE OIL WEEKLY said that it believed that by the middle of the year operators would take another look at their plans for drilling, and that any changes from the announced plans of January 1 would be upward.

Outlook Good

What of the rest of the year? Unless curtailed by lack of equipment, or a price reduction by mandate from OPACS, the oil industry will likely drill more wells than were drilled in the first six months, but not as many more as July has indicated. Should this be done? Our belief is that if more wells are not drilled, or at least as many wells drilled as were drilled during the first six months, the oil industry and the public may regret it by this time next year.

Tanker Tales . . .

We continue to hear stories on the operation of American tankers transferred into English service which would make it appear that the best possible service, under the conditions, are not being had on these tankers. Recently we heard of tankers being called back several times after being out at sea as much as a day and a half from England. The reasons may have been presence of enemy craft, but there have been instances of tankers being "lost" on the records and retained in port most unreasonable periods. In another instance there is a report of a tanker which hit an obstruction in English waters, suffering slight damage. Instead of allowing the tanker to procede to the United States where the repairs could have been made in a day and a half, with the voyage being made at no extra danger to the ship, the underwriters would not allow it to sail, refusing to pay American dollars for the repair work. As a result the tanker was held up in England nearly seven weeks awaiting repairs.

Reasonable Price Raises Desirable . . .

A sanguine view of the economic and business outlook was expressed to stockholders of Atlas Corporation, investment concern, in a mid-year report by Floyd B. Odlum, president, whose judgment in finance and business is highly respected.

He expressed hope and belief that the many emergency controls of the government would prevent a damaging, uncontrolled, inflationary spiral of prices but that prices would be permitted to embrace costs, including profit, so that profits would not be squeezed down below fair amounts, between taxes and restricted prices on the one hand and rising costs on the other. A gradual rise in prices, sharply distinguished from an uncontrolled inflation, may be unavoidable, he said, in periods of emergency such as at present and may even be desirable.

The financier expressed belief that an abrupt inflationary spiral was not seriously threatened and indicated doubt as to how much protection to capital would be afforded by securities in a period of inflation accompanied by price controls and high taxes. And those views have been backed up by an investment policy, the management of the company having deemed it prudent to maintain currently a substantial portion of the concern's assets in the form of cash.

Industrial Production . . .

Industrial production such as the world has never yet seen is in store for next year in the United States, although much of the work involved will be going not into the creation of basic wealth or even into the making of normally required consumer goods, but into armament and maintenance of the armed forces.

Defense accounts for 20 percent of current production and henceforth will account for increasing proportions.

The Federal Reserve Board index of industrial production was at 104 in August, 1939, as the war began. It went above 160 in July of this year, as the great defense activity was accompanied by a civilian boom. The sharp rise is believed to be near an end now, as many plants are operating at capacity, while the government is discouraging production of many consumer goods, such as automobiles, radios, refrigerators, and so forth, to make available for defense industries more materials and skilled workers.

Further rise of the index is expected, consequently, to be slow, and some economists think it may not go much above 165 in the clos-

ing months of this year. However, other economists are less conservative in their predictions and forecast that the index may reach a high of between 220 and 240 next year.

It is pointed out, moreover, that the index may have to be revised to give greater weight to defense and armament activity, much of which fails now to lift the index as much as the importance of that production justifies.

Higher Income Tax Rates Are Due

Lower and middle classes likely to experience triple increase

Income taxes of many persons in the lower- and middle-income brackets will be tripled under the Revenue Act of 1941, which last week went through the House by vote of 369 to 30, stripped of the controversial provision requiring married persons to file joint returns. Stiffest in the history of the country, the tax bill is designed to raise about $3,200,000,000 to help finance defense. Corporations will be required to pay about $1,332,900,000 through surtaxes and more drastic excess profits taxes, if the Senate approves the measure; and the bill calls for raising of about $829,000,000 from individuals through a drastic system of graduated surtaxes starting at the first dollar of taxable income and ranging upward from 5 percent. Nuisance taxes enacted in 1932 will be made permanent, and there will be imposed nearly 40 new or higher excise taxes estimated to raise about $880,100,000. Estate and gift taxes will be increased so as to produce about $151,900,000 revenue.

Generally, each tax payer who pays income tax at all will have to pay a surtax of at least 5 percent on all taxable income for 1941, without any deduction for earned income.

The surtax of 5 to 75 percent is in addition to the regular income tax which remains at 4 percent and a super-tax of 10 percent of the whole tax bill. Personal credit and allowance for dependents remain unchanged.

Many married men or couples earning from $2,000 to $6,000 a year will for the first time pay surtaxes in addition to normal income taxes on income of 1941. And persons of larger income, who have paid surtaxes in the past in addition to the normal income taxes, will be confronted with sharply higher surtaxes. Likewise, single persons will find the federal income taxes sharply higher.

Married persons without dependents having $2,500 of net income will pay 5 percent on the $500 earned in excess of the personal exemption of $2,000 for husband and wife, that is, $25, in addition to the normal tax of $20 (4 percent on the $500 above personal exemption), whereas no surtax was paid in the past.

Individual Taxes

Married persons without dependents having $4,000 net income, that is, $2,000 being surtax net income, will pay a surtax of $100, as against none now paid, in addition to the normal tax of $80 under the retained normal rate of 4 percent on the income above the $2,000 exemption for husband and wife. Those having $8,000 net income, that is, $6,000 in surtax net income, will pay $480 in surtax against $80 at present; having $16,000 in net income will pay $2,100 in surtax against $800 now; having $34,000 in net income will pay $8,740 in surtax against $5,240; and having $72,000 in net income will pay $28,120 in surtaxes as against $20,880 now.

For a single person, the surtaxes begin with the first dollar over $800 of net income, and the combined normal and surtaxes will take, for example, 1.54 percent on a net income of $1,000, 5 percent on $1,800, 7 percent on $3,000, and 10 percent on $6,000, the present rates on these amounts being respectively 0.44 percent, 2 percent, 2.78 percent, and 4.25 percent.

The normal corporation income tax rate of 24 percent was retained in the revenue bill, but it levied surtaxes of 5 percent on the first $25,000 of taxable income and 6 percent on the remainder. Excess profits taxes which now range from 25 to 50 percent will be boosted to run from 35 to 60 percent, if the bill is finally enacted as it stands; and excess profits will be computed before deductions for normal taxes, the reverse of the present law. Corporations will be allowed to continue to measure excess profits by either the average earnings or invested capital methods.

Caucasian Oil Fields . . .

The Caucasian oil fields are regarded by some analysts as a major objective of the German attack on Russia; and in extension of that opinion they reason that the next German effort, in event of success against Russia, will be an attempt to gain control of the Mediterranean. For exploitation of the Caucasian fields would be for Germany primarily a problem of transportation, rather than production; and movement of the Russian oil 2500 miles to the Reich could be much more satisfactorily accomplished by tanker than by pipe line or rail.

So far, Germany has demonstrated ability to wage war with the oil at her disposal. But the Russian campaign obviously is requiring great quantities, and supply has been reduced at least to the extent that imports from Russia have been foregone.

The German - Russian struggle, extending beyond the time limits preconceived by the Nazis, and eating into petroleum storage of the Reich, makes definitely urgent the German need for the oil prize of the Caucasus.

But no less imperative is the necessity for the Soviet Union to hang on, at all costs, to the Caucasian oil fields and refineries, which are vital to the continued prosecution of the war, the fields being the source of 80 to 90 percent of all Russia's supply.

Only as a very last resort could Russia afford to wreck the fields and blow up the refineries. Yet delay of such destruction to the eleventh hour, in event of a successful German drive, might prove too late.

Iowa Shut Down . . .

Iowa has been temporarily abandoned as a prospective oil producing state and no further activity is anticipated for the remainder of 1941.

Five wildcats have been completed as failures without any sign of encouragement as to oil and gas during the year. A total footage of 11,248 was recorded in three counties in the southwestern portion of Iowa adjacent to Nebraska. Objective of these wildcats were Mississippi lime, Hunton lime, Devonian, Wilcox and Arbuckle lime. Deepest penetrated to 3378 feet in Mt. Simon, below Arbuckle, in Fremont County.

EDITORIAL COMMENT

Business Must Go On

By RAY L. DUDLEY, Publisher

IN the *Chicago Tribune* of August 2 we find an implied criticism of England because English manufacturers are still offering for sale, all over the world, products on which American manufacturers are facing extinction because of priorities brought about by our national defense plans and our lease-lend activities with Britain. The article quotes from an engineering supplement to Lord Beaverbrook's *Daily Mail,* Overseas Edition, in which advertisements are reported from English concerns offering everything from a modern refinery down to precision tools and hacksaw blades, taking in between such items as aluminum or phosphor bronze castings, alloy steels, etc.

Frankly, we cannot see anything sinister in England desiring to carry on as much export business as possible. The British have sensibly realized that they must pay for the war in some manner and that a continuance of trade is necessary. That such a desire, or necessity, puts English firms in competition with American firms is inevitable.

On the other hand, we can readily understand the feeling of an American manufacturer whose taxes have been raised by national defense and lease-lend spending, when his business is curtailed or destroyed by priorities, while at the same time he sees English firms still offering their wares to the world. He wonders why our own government does not realize the necessity of carrying on business as far as possible in order to provide funds with which to help pay for armament and lending expenditures. He wonders why administration leaders apparently are concerned with the welfare of others more than they are concerned with the welfare of American business institutions.

The idea that the country must be prostrated for American people to appreciate the seriousness of the situation does not appeal to us—nor does it appeal to most American people—as being founded on good common sense. The idea that our "all out" effort must destroy many American businesses, or must come home to American citizens in the form of doing without something they need is sound *only if such procedure is necessary.*

Many people think, and we agree with them, that roughshod tactics and a lack of practical common sense in our program will not aid, but will damage it.

They ask why it is that some businesses which have been considered gainful and legitimate, are to be sacrificed on the altar of necessity, while recalcitrant labor unions strike and suspend vital work. If there is a real emergency, sufficient to make the destruction of industries necessary, why does not this emergency apply to the labor front as well, they inquire?

Naturally Americans are going to kick about the English carrying on their export business as usual while we are shut down or partially so, but we believe that most of such complaints will be based largely upon the unnecessary fact that our own government does not take as practical a view of such matters as do our English friends.

A great many people are wondering about how we are going to pay for all the expenditures Congress is authorizing. Manifestly, our armament expenditures cannot be paid out of the profits on the manufacture of defense products. Such profits likely will be heavily taxed and will produce much revenue, but unless other enterprises in the United States carry on, and while serving the American people and export trade, also make a profit which can be taxed, the outlook is dark indeed.

The obsession which President Roosevelt and his advisers have had—that we can buy our way out of any emergency by appropriating billions, while at the same time lacking the courage to ask the country at least to try and pay its way as far as it can as it goes along, seems to have been contagious and now Congress is afflicted by it to an extent that any other disease with which Congress may be suffering, seems a mild malady indeed.

We have it on good authority that a cabinet member recently said that he expected the national debt to go to two hundred billion dollars. It would not be surprising if this cabinet member had let slip some inside information.

The administration has a lot of representatives flying around—no pun is meant—and everywhere they light they promise a lot more supplies or materials. Two months ago, or less, we moved the army in to stop what was described by administration leaders as a communistic shut-down of a great American defense plant. Last week Harry Hopkins, after promising our English friends the shirt on our back, lighted long enough in Russia to tell the communistic bosses there that they might have some of the skin off our back. Meantime the Japanese are acting in an ugly manner and in our minds the odds are strong that we shall be tangled up with them shortly—which will call for another shirt or more skin.

America is a great nation. This we tell ourselves over and over, and others tell us as well. We will defend its democratic institutions to the limit of our power—but is it wise to restrict our power by reckless and foolish spending; by forgetting that business must go on or taxes fail, or by putting Hitlerian powers of price fixing into the hands of men who mistake wisecracking for wisdom?

Washington Roundup

Four tankers diverted to Russia, mild West Coast shortage looms . . . East Coast faces enforced rationing . . . Aviation gasoline scarcity predicted . . . Compact passes House . . . Ickes' position as oil czar consolidated . . . Price bill pends

By B. F. LINZ, Washington Correspondent

THE Pacific Coast is threatened with a mild version of the gasoline shortage which threatens the eastern states and possibilities of a third deficiency—in aviation gasoline—arose last week as the Administration in Washington added Russia to the list of countries "resisting aggression" to which material aid is being extended.

The Pacific Coast situation is the result of the transfer of four tankers to the hauling of oil products to Russia, which will be on their way with their first loads before the end of the month.

The Russian need for gasoline also brought the aviation-gas situation to a climax, with Coordinator Ickes denouncing the OPM for failure to take steps to build up refining capacity for 100-octane grade.

Meanwhile, the shortage in the East got no better fast, the public failed to voluntarily reduce its gasoline consumption and the night closing of filling stations failed to pull down sales materially, with the result that the threat of rationing fast assumed the status of an inevitability, rather than either a possibility or a probability.

Coordinator Ickes consolidated his position as czar of the oil industry by reaching an agreement with the OPM and OPACS by which he passes first on applications from the industry for priority for needed materials, an important factor in the construction of proposed new pipe lines. If Congress passes price fixing legislation, Ickes will be in charge of oil prices.

The Interstate Oil Compact began its voyage through Congress, with little chance of any opposition whatever, as the House Interstate and Foreign Commerce Committee, without hearings, sent to the House a resolution of ratification. The House almost immediately passed the measure, without debate.

Chairmen of the 25 regional committees will meet Monday for their first discussion of the industry's problems with the coordinator and his aides. Major subjects of discussion will be the eastern shortage, the aviation gasoline situation and a number of more or less local problems which have arisen.

There were indications last week that further tankers were being diverted to the British shuttle service, but Coordinator Ickes refused flatly to discuss the situation, which he regards as a military secret.

Pacific Coast Shortage

A shortage of oil along parts of the Pacific Coast area was forecast by Coordinator Ickes August 7 as a result of the transfer of four tankers from Pacific Coast runs to the hauling of gasoline for Russia.

The Russian government wants a "considerable quantity" of aviation gasoline, and it can move to Russia from Pacific Coast ports to Vladivostok or from East Coast ports to Archangel.

Originally asking for one tanker, the Russians later increased their request to two and then to four ships, which they will get immediately. In addition the Soviet has a few tankers of its own and can move some gasoline in drums, for the production of which Ickes last week asked the OPM for a priority order, but will have to charter some ships if they are to send gas in drums from the Atlantic Coast to Archangel.

The first shipment of gasoline moved from Los Angeles a week ago, he disclosed. "We were the first to get supplies out on the way to Russia and we did that within two weeks after the request came in," he exulted.

The first Russian tanker is due to arrive on the Pacific Coast before the end of August—"and we will have the oil ready"—but even before then the four American tankers will be loading.

Deputy Coordinator Davies said there are about 35 tankers on the Pacifiic Coast, including both South American and Canadian movement, and that the transfer of four of them is likely to cause some shortage of oil, but nothing like the deficiency which is being experienced in the East.

Rationing for East Likely

Admitting that voluntary conservation is a failure, Coordinator Ickes disclosed August 7 that rationing is being seriously considered for the eastern states.

"At the rate we are going, the deadline is not very far ahead," he said, although he refused to name a date.

Paying high tribute to the cooperation afforded by the industry and the filling stations of the section, Ickes laid the blame flatly upon the motoring public, making public figures showing that during the week ended August 1 deliveries to service stations increased 1,029,866 gallons, or almost one percent, over the previous week which itself had shown an increase of more than 1,000,000 gallons.

Saying that he had not seen the plan proposed by New York officials for the issuance of ration cards permitting individuals to secure 10 or 15 gallons of gas a week, the coordinator said that consideration is being given to two or three proposals but that no definite decision has been reached.

"I had hoped rationing would not be necessary, but there will have to be much greater evidence

of willingness to cooperate in the immediate future if we are to avoid some system of involuntary co-operation," he commented. "I am not as hopeful as I was a week ago."

Ickes admitted he has some doubt of his legal authority to enforce rationing and said it all depended upon the attitude of the industry.

If rationing actually is imposed in the near future there are indications that it will not come before September 15. Those indications were, first, reluctance to clamp down on consumption until the end of the vacation season and, second, the intention of the coordinator to leave Washington about August 15 for a two or three weeks' trip through the West, one of a number of Government officials who will take advantage of a lull in Congressional activities to secure a brief respite from Washington's heat and turmoil.

Aviation Gasoline

Declaring that the situation with respect to aviation gasoline is "not nearly as good as we have been led to believe," Coordinator Ickes last week disclosed that quick action must be taken to expand refining capacity if the Nation is not to experience a shortage in 100-octane fuel.

Present supplies are inadequate, and there were inferences in some quarters that neither the Army nor Navy was aware of the seriousness of the situation, which Ickes said had been precipitated by the request of Russia for aviation gasoline on top of the requirements of Britain and our own air services, civil and military.

[Ickes refused to say how much 100-octane gasoline was in storage, but the last report showed 7,673,000 barrels on August 2. These stocks have been increasing steadily, rising 131,000 barrels during the week ending August 2, at which time they were 2,198,000 barrels greater than a year ago. These figures do not include stocks held by military services, unknown in quantity.]

Disclaiming any intent to criticise Dr. Robert E. Wilson, who formerly was oil consultant to the OPM, the coordinator nevertheless was caustic in his strictures of that agency for failing to foresee the present situation. He pointed out that Wilson had repeatedly said there was sufficient capacity to meet all foreseeable needs, but admitted that he might have been considering domestic requirements only.

[In this connection it is interesting to study Dr. Wilson's speech before the American Petroleum Institute in November, 1940. In speaking of 100-octane aviation gasoline, Wilson said in part "The installed capacity is, however, barely enough to meet our probable peace-time requirements, including exports, once our advanced training program is well underway, and it is substantially less than enough to meet present estimates of full wartime demand after our plane building program is completed . . . it would seem advisable from the defense viewpoint to have some additional capacity available within about 18 months and I am hopeful that the industry will undertake such construction . . ."]

Ickes disclosed that he is planning to take up the problem of increasing refinery capacity immediately with the OPM, to determine priorities, and that it will be one of the problems to be considered at the conference of regional committee chairmen scheduled for August 11.

He revealed also that the OPM never put into effect Dr. Wilson's recommendation for development of underground storage facilities, but that oil administration officials have themselves undertaken a study of the subject, which will include a survey of the possible use of caves. Some storage has been built, he said, but far from enough.

"We have got to refine substantially more than we are now able to refine," he summed up, adding that it would take seven or eight months to construct the needed additional capacity.

"The Russians want a considerable quantity of aviation gasoline. That had not been anticipated at all. I am not being critical on that subject, because there was probably no reason to anticipate a demand from Russia, but even aside from that the figures were more optimistic than realistic."

Good Neighbors "Shake" Over International Pipe Line

International News Photo.

High officials of both the United States and Canada attended a ceremony during which the United States and Canadian sections of a 236-mile oil pipe line were welded at the international border. The pipe line, which will join a tanker terminal at Portland, Maine, with oil refineries at Montreal, Canada, will reduce tanker mileage by 2000 miles and is considered a "must" in the national defense program because of the tanker shortage.

Governor William H. Willis, left, of Vermont, and Honorable C. D. Howe, Canadian minister of munitions and supply, are shown here using international teamwork in welding a joint of the line together.

Coordination

All differences between the oil coordinator and the OPM and OPACS were resolved last week and a coordinated program worked out for handling the priorities and preferences accorded the industry under the defense program.

Under the arrangement, all applications for priorities from the industry are to be filed directly with Coordinator Ickes, who will forward them with his recommendations to OPACS and OPM, priority orders or certificates being issued by the priorities division of the latter agency.

"This arrangement makes it the responsibility of the petroleum coordinator, rather than individual units of the oil industry, to present to the Office of Production Management and to the Office of Price Administration and Civilian Supply, factual data as to the minimum quantities of material required by the industry to meet the demands made by the defense program and the essential civilian demand," it was explained by the Office for Emergency Management in announcing the new set-up.

The OEM is the "top" defense agency, of which OPM and OPACS are branches, and it was under the eyes of OEM officials that the new arrangements were perfected.

In order to expedite adjustment of the industry to the emergency situation, which involves a limited supply of materials, the five district offices set up by the oil administration will receive applications from the industry for transmission to Washington. Until those offices are opened, however, all applications for priorities for the purchase of materials, supplies or equipment needed by the industry are to be sent direct to the coordinator in Washington. Such applications must be accompanied by explicit and detailed statements regarding the purpose for which the materials are needed.

It was pointed out that the new arrangement will eliminate the necessity for the industry to go to various agencies to straighten out its problems, and that it covers all branches of the petroleum industry with respect to their requirements for materials and supplies.

Tankers

In another move to secure capacity use of tankers, marked last month by the enactment of legislation lifting load lines on those engaged in domestic trade, Administration officials plan shortly to abandon the international prohibition against tankers in foreign trade carrying more than 94 per cent of their capacity. The restriction was adopted in 1930 in a treaty signed in London by delegates from 30 maritime nations.

The lifting of the load line on tankers engaged in foreign trade will give added carrying capacity to ships bringing oil from Latin America to the United States, to

SHAKE-OUTS
From The News

Soviet geologists claim for the U.S.S.R. the largest oil reserves of any country in the world. Immediately accessible reserves are estimated as of January 1, 1939, at 4,679,300,000 metric tons (nearly 33,000,000,000 barrels).

»

Industry has 64 tankers and the Maritime Commission has 72 under construction or contract. But available shipyard ways are delaying building, and only from 10 to 20 tankers are expected to be launched in each three-month period. The entire program will not be completed before 1943. Meanwhile, the oil industry has been asked to contract immediately for construction of from 40 to 50 additional large, high-speed tankers.

»

Coordinator Harold L. Ickes is practicing what he preaches, having put into effect a practice that he expects will result in a saving of fully 50 percent of the gasoline he and his family have been using personally.

»

First oil field strike in several years occurred last week when pumpers, gaugers and roustabouts of The Pure Oil Company in Michigan walked out. This brought shutdown of 600 producing wells and took 12,000 barrels, or 25 percent, of the state's daily production out of markets. Company officials branded it an outlaw strike, claiming not more than 90 of 300 employes were striking. Union spokesman for Oil Field and Refinery Workers local, an A.F.L. affiliate, said the strike was called because of discriminatory action against workers, demanded two discharged employes be reinstated and that the company contract with union.

»

Richard C. Alden, Director of Research, Phillips Petroleum Company, Bartlesville, a recent guest speaker over radio stations KTUL and KOMA, Tulsa, when asked the question: "Can the motoring public help in the national program of conserving petroleum supplies for emergency purposes?" replied: "Yes, indeed. If as a nation we save 1 gallon (gasoline) out of ten, we would be saving more oil than the Axis powers have available."

»

One of three new buildings under construction on the University of Texas campus is a three-story $200,000 petroleum engineering building that will cover 33,000 square feet of floor space. A special feature will be a display room, where heavy field and refinery equipment may be moved in by overhead cranes for study. Modern laboratories for petroleum work are to be installed in the building.

»

Some states of the Atlantic seaboard, which will have to cut down petroleum consumption, have show heretofore in 1941 the greatest gains among all states in use of gasoline. Virginia used approximately 25 percent more than a year previously in May and also in the 5 months from January through May. Other sharp increases for May were those of 23 percent in Alabama, 22 percent in South Carolina, 22 percent in Florida, 21 percent in California, and 19 percent in North Carolina. New York, largest consuming state, showed an increase of 9.6 percent. For the United States, gains were 13.63 percent in May and 13.68 percent for the first 5 months. These figures are from the American Petroleum Institute.

»

Using a recently developed sand and asphalt method, army roads are being built at the rate of three miles a day. Army men go to bed at night and wake up in the morning to find the road in front of their quarters paved.

»

In a drive to contribute scrap iron to the national need for this material, one oil company permitted a boys' organization to comb its properties for scrap, furnishing a pickup truck and two men from the gang to help.

Among the "scrap" collected was a section of eight-inch line—relic of "hot-oil" days—over two hundred feet in length, the open end of which was known to the company, but the extent of which was discovered only by attempting to pull the supposed nipple from the ground with a winch truck.

Other interesting items of salvage were four sets of pipe tongs, two chain wrenches, 19 shovels (conveniently "forgotten" by workmen when the quitting whistle blew), and over 400 pounds of ells, tees, nipples and other fittings which, from their appearance, had been entirely serviceable at the time of their loss.

a slight extent relieving the effects of the diversion of tankers from that service resulting from the transfer of ships to the British "shuttle" service. It also will permit the heavier loading of tankers engaged in supplying the Caribbean islands, whose situation was discussed last month at a meeting of Coordinator Ickes and representatives of the supplying companies at which an agreement was reached by which oil for all the islands in the area except Cuba will be supplied from Aruba and Curacao, cutting the tonnage required by more than half as compared with that needed to supply those islands from the United States.

Pipe Line Priorities Raised

Faced with a possible delay in completion of the new pipe line under construction from Portland, Maine, to Montreal, Canada, the OPM, on the recommendation of Coordinator Ickes, jumped the priority rating on the pipe line from a-2 to A-1-a August 5, giving it the highest standing available, comparable to that given essential defense orders. The higher rating is designed to speed up the delivery of materials necessary for the American section of the line, with a view to its completion before winter weather seriously interferes with operations.

The line is considered the most urgent item in the immediate oil program. Its completion will reduce by 2000 miles the distance now traversed by tankers in delivering oil to Montreal, saving the facilities of three and one-half tankers for service elsewhere. At the same time, it will assure Canadian defense industries of a steady supply of oil.

Completion of this line, Ickes pointed out, would make it possible to clear the way for other pipe line projects which will need vast quantities of pipe and other materials.

Oil Prices

Moving to curb inflationary tendencies in the price of Pennsylvania grade lubricants, Leon Henderson, Administrator of the Office of Price Administration, asked the leading producers of those oils August 4 to establish a base price of 33 cents per gallon for the dominant grade, 200 Pennsylvania neutral, 25 pour test, and to maintain current price differentials for the other grades of neutrals.

OPACS officials pointed out that production of Pennsylvania neutrals is only little more than 5000 barrels a day, and that demand for high-grade lubricating oils for the defense program and increased industrial and civilian activities is absorbing the entire production.

"A succession of increases in recent months has carried refinery prices from about 22 cents per gallon to 42 cents per gallon and higher," it was explained. "It is believed that sales at recent high prices for the most part have represented inter-refinery transactions and will not be reflected in prices which the ultimate consumer is charged for these lubricants.

"Nevertheless, since no appreciable addition to supplies of Pennsylvania neutrals can possibly result from higher prices, continued advances can accomplish nothing more than to stimulate inflation."

Price Bill Pending

Major interest in prices, however, was centered last week in legislation pending in Congress, authorizing the President to establish price ceilings for any commodity or commodities, where possible on the basis of July 29, 1941, prices, adjusted for any relevant factors of general applicability such as speculative fluctuations and general increases or decreases in costs or profits.

In imposing ceilings, the bill provides for full publication of the facts on which the orders are based, and appeals may be taken from such orders to a three-judge Emergency Court of Appeals which the measure creates and to the Supreme Court.

The legislation would remain in force until one year after declaration by the President, or by Congressional resolution, that the authority is no longer necessary in the interest of national defense, this period being designed to afford an opportunity for gradual readjustment to normal conditions.

The bill also would authorize the President to acquire and dispose of commodities in order to obtain the maximum necessary production from marginal or high-cost producers without causing general price increases. This provision, it was explained, would eliminate the necessity of allowing prices on any commodity to rise so far as to cover the costs of the very highest cost producers in order to obtain needed production, which would mean windfall profits to low-cost producers.

The coordinator's office will be in charge of oil prices if Congress enacts legislation now before it authorizing the President to impose "price ceilings." It was explained by both the coordinator and Leon Henderson (the latter before the House Banking and Currency Committee) that under the bill, the President would have the authority to delegate his power, and would turn coal prices over to the Bituminous Coal Commission and oil prices over to Ickes.

IPA Reports On Prices

Meanwhile, OPACS officials and Coordinator Ickes had before them a memorandum on oil prices submitted by the Independent Petroleum Association, in which it was urged that if prices are fixed for crude oil they should be on the basis of cost, with due regard for the necessity of continuing exploration and discovery and the protection of stripper wells.

The association pointed out that the price of oil directly affects the extent of exploratory work, the number of new producing areas discovered and the volume of new proven reserves made available; it directly affects the ability of the stripper wells to continue in operation and recover the reserves underlying such properties without premature abandonments; and also affects physical waste, "a depressed price encouraging among other things inefficient and wasteful production practices and the sale of petroleum products for inferior and uneconomic uses."

The two major factors in the situation, the Government agencies were told, are exploration and stripper wells, protection of both being essential to conservation. Another factor which materially influences the situation, however, is that of imports of foreign oil, the memorandum pointing out that "obviously, if this foreign oil is permitted to enter our markets in uncontrolled quantities, it will have a strong depressing effect upon prices particularly when the companies engaged in this importing are among the largest purchasers of domestic crude petroleum and are thus in a position to establish monopolistic control of the domestic industry."

Although the fundamental basis for oil prices should be the cost of

[*Continued on page 52*]

Taking More Tankers; Pipe Line Plans Progress Slowly

THE little boat that doesn't live in the U. S. Fleet any more will have some 40 (the reported number is 42) additional companions in the tanker fleet for "British aid," when the current draft of bottoms takes full effect late in August or early September. Meanwhile, although some organization progress is being made in plans for a crude oil carrier from Texas to the Atlantic seaboard, the system is still too far in the future to be of any assistance during the coming winter.

The Atlantic Seaboard area was in a fair way to overcome the initial transportation shortages set up by the first draft of ships for British shuttle service, through juggling of facilities, expansion programs and pooling of bottoms. But a second heavy "take" of tankers, coming before the first had been fully compensated for, will bring about an almost immediate shortage of petroleum products in localities depending largely upon tanker transportation.

Pipe Line Situation

Although some progress is being made at meetings being held by those interested in construction of a crude oil carrier from Texas to the Atlantic Seaboard, no relief can be expected, under present design and construction limitations, for at least 9 to 10 months, with less optimistic pipe liners and contractors setting a date one year ahead of first laying as the best record that can be under a set up hindered by restricted pipe mill output and necessity for procuring a long row of priorities before pumping equipment and prime movers can be delivered.

The so-called national defense crude pipe line is still undergoing almost daily changes in specifications, with both ends definitely located, but with such important factors as the Illinois junction with the Mid-Continent tie-in still to be determined.

Plans for the line from Longview, Texas, to the junction now call for a 22-inch line, with wall thickness cut down from the initial estimated half-inch to a uniform 7/16 inch, with no apparent attempt being made to vary wall thickness in accordance with theoretical pressure decline between stations. Use of the thinner wall will require either additional stations or a reduction in the initial working pressure of 1000 pounds to around 750 or possibly 800 pounds per square inch at station manifolds, and perhaps both.

With a daily throughput of in excess of 220,000 barrels already bespoken, 80 percent of which is to be East Texas crude, it will be necessary to step up the capacity from the Illinois junction to the branching in eastern Pennsylvania. This line is now projected as a single 24-inch, with wall thickness also to be 7/16-inch. The line will terminate near Chester Springs, Pa., with the branches extending to the refinery centers at Marcus Hook, Pa., and Bayway and Bayonne, N. J. The branches will probably be 20-inch.

Committees Working

An executive committee consisting of W. A. Jones, Cities Service Oil Company; R. H. Colley, Atlantic Refining Company; R. W. Gallagher, Standard Oil Company of New Jersey; and Harry F. Sinclair, Consolidated Oil Company is directing the pipe line, to be organized with a capital of $70,000,000, of which 20 percent will be paid in by the 11 participating companies and the remainder supplied through a bond issue.

Under present plans the line will probably be operated free of tax for five years, at which time the cost will be amortized if the line operates at capacity and a rate of around 30 cents per barrel is allowed.

A technical committee, with W. R. Finney, Standard Oil Company of New Jersey as chairman, is in charge of the construction of the line, and will divide responsibility to various departmental chairmen, each of whom will be directly in charge of his phase of construction. A. N. Horne, Empire Pipe Line Company, has been named to supervise specifications, pipe shipments, and actual pipe-line construction. Station construction will be under Lester M. Goldsmith, Atlantic Refining Company, his subcommittee consisting of C. M. Roseborough, Gulf Refining Company, and G. N. Kinter, Tide Water Associated Oil Company. Survey and right-of-way will be handled by a sub-committee consisting of J. R. Manion, Sinclair Refining Company, chairman, and Clay Briggs, Cities Service Company; Stanley L. Westlake, Ajax Pipe Line Company; and Frank Hadley, pipe-line department, Sinclair Refining Company, as members.

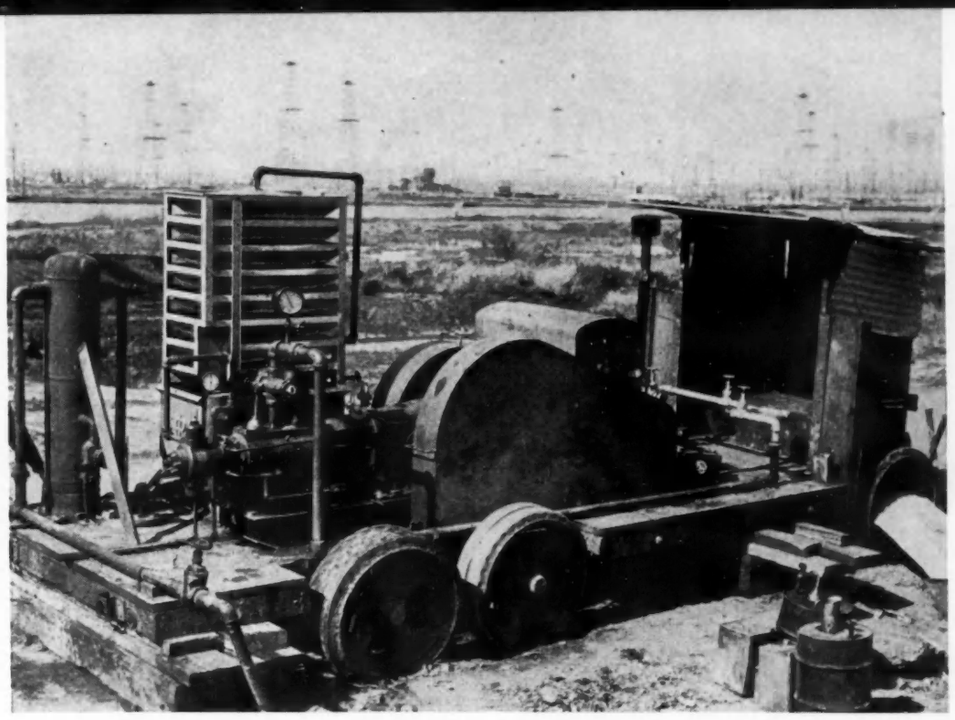
Sectionalizing of the line for construction, and possibly for ultimate operation, after the plan followed in the construction of the Plantation crude line, is expected.

Eleven to Participate

The addition of Pan American Petroleum & Transport Company to the ten original participating companies brings the roster to 11. Others are: Atlantic Refining Company, Cities Service Company, Consolidated Oil Company, Gulf Oil Corporation, Shell Oil Company, Inc., Socony-Vacuum Oil Company, Standard Oil Company of New Jersey, Sun Oil Company, Texas Corporation, and Tide Water Associated Oil Company.

Those companies having no refining capacity on the Atlantic Seaboard (Shell, Gulf, Texas and Pan American) will trade out their share in the line throughput for allocation of some of the remaining tanker capacity still remaining for the handling of their refined products to eastern distribution points from Gulf Coast refineries.

Two pipe line companies likely will be formed, one from East Texas to the state border (on account of Texas common law carrier) and the other from that point east.



This portable, high-pressure, low-volume compressor is used in a variety of ways in cleaning up and eventually flowing the wells. The most common use to which it is put consists of displacing the heavy, mud-laden fluid in the well with gas pressure, then bleeding off the gas to allow live oil and gas to enter the hole and eventually to flow the well.

Completion Costs Cut By

Cleaning With Compressor

By GILBERT M. WILSON, Staff Writer

A METHOD of cleaning out flowing wells during completion operations by use of a compressor, is being used with good results and a definite saving in initial cost of the wells by one company operating in the Wilmington field of Southern California. A portable, low-volume, high-pressure compressor is used to remove mud, water and dead oil from either the casing annulus or the tubing string, after which live oil and gas is allowed to enter from the formation.

The same procedure cannot be applied to every well since many variable factors are involved. Production may be obtained in most parts of the field, from any one or several of four distinct zones. The method of completion, whether single or multiple zone, sizes of casing and flow strings, gravity of the oil, and the anticipated rate of production in that particular part of the field based on wells in the same area, all tend to influence the exact procedure to be followed, so each new well is treated almost as a special case. Oil gravities in this field vary from 14 to 26 degrees API in the Ranger and Upper Terminal, and between 26 and 31 degrees in the Lower Terminal.

Depending upon their position in respect to the numerous fault blocks which cross the field, the three upper zones on which this method has so far been used with best results, are the Ranger, Upper Terminal, and Lower Terminal, with their respective depths averaging 2400, 3100, and 3300 feet from the surface. The original static bottom-hole pressure in the field closely aproximates that of an equivalent column of water at those depths, so the static fluid level usually stands very close to the top of the hole.

Some wells in certain parts of the field will flow naturally as soon as the drilling mud has been displaced by water. Following that, if the well does not flow, oil is pumped into the casing to displace the water and force it up through the tubing. If the well still does not flow, indicating that heavy mud and water probably still remains in the column of fluid above the perforated intervals, the compressor is used.

As was stated no single procedure in using the compressor can be applied to all wells. In general, however, one or all of three basic steps, with minor variations applicable to each one, usually are followed at each new well.

Annular Space Fluid Displaced

The first and most commonly used step with the compressor consists essentially of displacing the oil column in the annular space by injecting gas up to a pressure of between 800 and 900 pounds per square inch. The tubing is allowed to remain open during this injecting period in order to allow the displaced fluid to be forced out through the tubing. Depending upon the tppe of completion, whether a one-, two- or three-zone well, the fluid level in most cases is depressed to approximately 2700 feet.

In the most common type of completion now being made, where the Upper Terminal zone is open to the 8⅝-inch casing flow-string and the packed-off Lower Terminal zone is open to the bottom of the 2½-inch tubing string, the packer is raised to allow both zones to be open at the same time to the

casing during the injection period.

Since the compressor puts out such a comparatively low volume of gas, no attempt is made to depress the column to the tubing inlet in this initial step. The greater percentage of the mud and water-laden oil normally would be in the lower part of the column, so the several hundred feet of fluid still remaining above the tubing inlet after the compressor is shut down, would be the relatively cleaner oil that originally stood near the surface. During this relatively slow building-up period the gas pressure is merely substituted for an equivalent hydrostatic head of oil, so the original static bottom-hole pressure remains practically unchanged.

At this point the casing gas usually is connected into the tubing at the Christmas tree in order to drive the fluid in the tubing down to approximately the same level as that in the annulus. The tubing then is closed.

Pressure Differential Created in Well

The casing pressure then is bled down slowly, allowing live oil and gas to enter from the formation. Knowing the volume of the annular space and the gravity of the oil, the rate at which the pressure is lowered is calculated carefully so that the resulting rate of fill-up of the fluid column in the well will not exceed the barrels per day rate of the estimated productive capacity of the particular well. The differential in pressure between the surface and the bottom of the hole is controlled so that a too-low pressure is not created within the drainage radius of the well bore. An excessively high differential would tend to move in sand or perhaps aid in an earlier encroachment of water. The use of gravel-packing in many of the wells lately, however, has removed some of the danger of in-coming sand.

As the casing pressure is lowered, the rising fluid level becomes more saturated with solution gas and free gas, aerating the column sufficiently to cause the fluid eventually to flow through the casing, after which it is allowed to flow until the well is cleaned up.

Approximately 90 percent of the wells thus treated will flow through the casing. On two-zone wells it is particularly desirable to flow them in this manner as it cleans out the sand that might otherwise accumulate above the packer before it is set down, thus keeping the packer clean for resetting.

Other Methods of Aerating Column

If the well does not flow through the casing, indicating that too great a head of mud and water still may be included with the oil in the area below the bottom of the tubing opposite some of the perforated intervals, the compressor is used in another way. It is again connected to the tubing head, and gas is forced down the tubing and bubbled up through the annulus. Since the fluid level already is very close to the surface, the slight amount of additional aeration of the column of oil usually causes the well to start flowing through the casing. After the well has cleaned up, the tubing bean is opened to flow, after which the casing is closed in to allow the casing pressure to build up and force the fluid level down to the tubing inlet.

In the case of the two-zone completion type of well, the two zones are flowed together for a short time to assure sufficient aeration of the entire column. The packer then is reset, allowing the upper zone to continue flowing until it is sufficiently cleaned up.

A wash joint or sliding sleeve that covers ports in the tubing string just above the packer also may be opened up to permit intercommunication between the two zones if it is perferred not to disturb the packer.

In certain cases where the size of the casing is quite large in proportion to the size of the tubing string such as a 10¾-inch casing and 2½-inch tubing combination, the method involving the depressing of the fluid in the casing is not used. Instead, the compressor is connected directly in to the tubing and gas is bubbled up through the oil in the annulus. Due to the slippage of the gas through the oil, the small volume of gas merely displaces the oil, causing the aerated fluid column to rise and eventually flow through the casing.

The compressor occasionally is used also as a direct gas lift in certain parts of the field where a deeper horizon, the Ford zone, is productive at approximately 5000 feet. The static fluid level in these wells does not stand as close to the surface as that in the upper zones. Because of this and the fact that the compressor does not provide sufficient volume or velocity to cause the well to clean up and flow by injecting gas down the tubing to force the heavy or dead fluid up the casing, gas is forced into the casing. The greater volume of the annular space makes such a process somewhat longer than usual, but in most cases the fluid can be forced out through the tubing, and the well started to flow more economically than it can be done with the conventional swabbing methods.

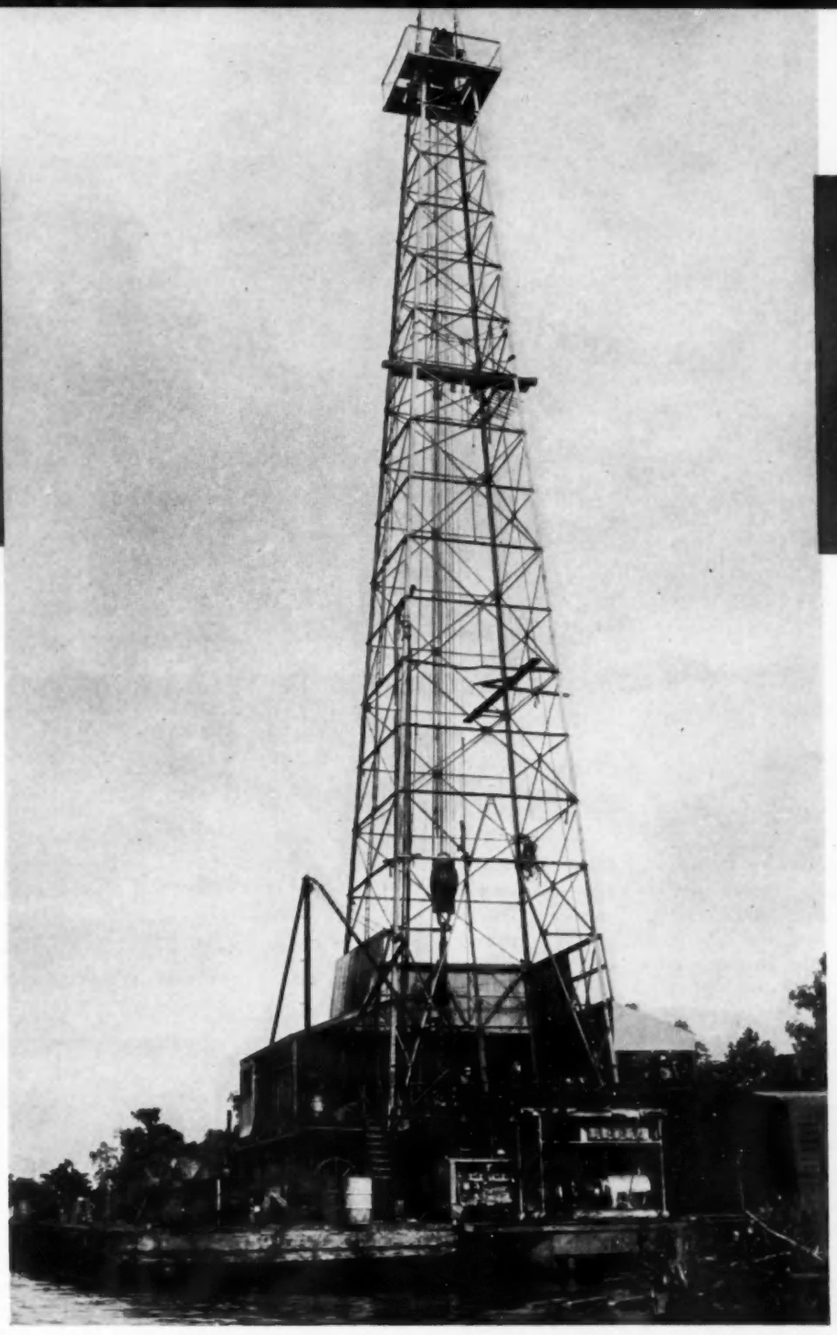
Following the removal of most of the dead fluid in the well, live oil and gas entering from the formation will start the well to flowing naturally through the tubing, after which the casing is closed in.

The compressor is of the horizontal, single stroke, two-stage type with bore and stroke of 5½ x 2⅛ x 9 inches. It is V-belt driven by a 38-horsepower multi-cylinder engine. With the usual intake pressure of 50 pounds, the compressor operating at 300 revolutions per minute has a normal capacity of 10,000 cubic feet per 24 hours. Gas for injection is taken directly from the lease gathering system. The entire assembly, including cooling tower and wet-gas scrubber, is mounted on a solid-tired low-bed trailer, to be towed to the various parts of the lease.

Attractive savings in completion costs are being effected as a result of the use of this system. The compressor requires the service of only one competent operator during each tour, while a gang pusher and crew would be required if the hoist or clean-out unit were used following the preliminary cleaning up operations by the drilling crews. Sand lines used in this field seldom last more than 400 to 500 hours during swabbing operations, so that cost, plus that of other equipment, is eliminated by the use of the compressor.

The fact that the drilling contractor can move his equipment to the next well several days earlier than formerly was possible with the conventional clean out method, also effects a definite saving in the initial cost of the well.

Since the adoption of this extremely flexible system of cleaning up and putting the new wells on production, much less time is involved in cleaning up around the well; very little oil is sprayed up in the derrick; and much less danger is present of the possibility of polluting the nearby harbor and tide-water drainage systems.



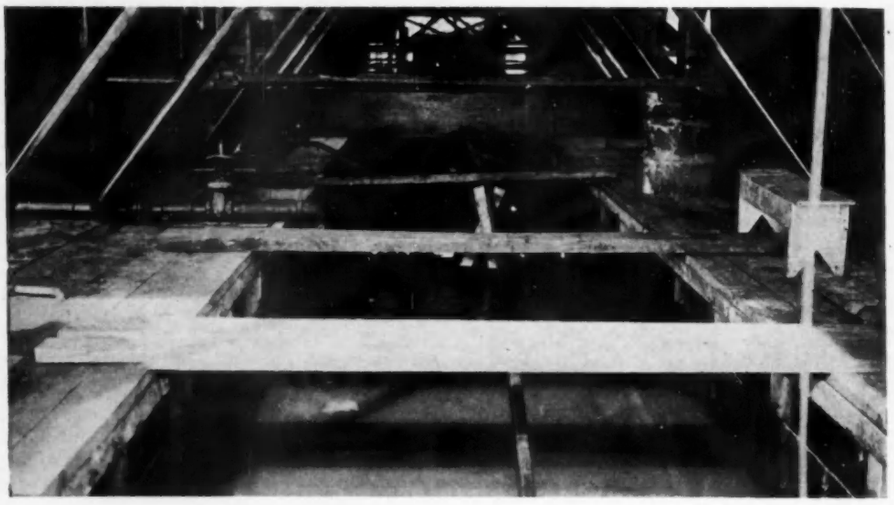
By GORDON M. NICHOLSON
Staff Writer

Floating Barge

Expedites Shallow Marine Drilling

A NON-SUBMERSIBLE barge constructed especially for drilling to the 2300-foot oil-producing sand in the West Lake Verrett field, South Louisiana, and for deep workover jobs, has been designed and placed in operation by Cron & Gracey Drilling Corporation of Houston. Assembled with the objective of allowing fast completions facilitated by ready mobility when changing locations, the entire rig assembly is mounted on a single barge, and includes a 126-foot derrick and attendant equipment such as a rotary and draw works driven by diesel power equipment, mud pump, mud tanks and pipe racks, with all apparatus transported in a single operation necessitating little expense, and eliminating time consumed in sinking or refloating barge as is usually the case with marine-drilling barges. Use of the barge avoids waste which would be incurred in occupying larger and more expen-

A 6 x 8-foot key-way is constructed at well location and serves as guide for placing barge in position over hole.



An 8-foot slot between pontoons slips over key-way when barge reaches location. The slot is strengthened by a horizontal tie-beam which is easily removed to pass over Christmas tree. Planks across slot are for convenient walking.

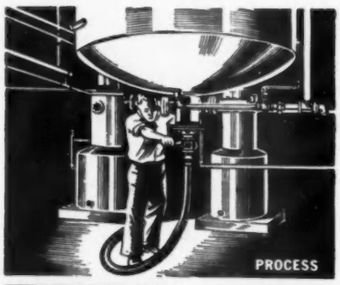
sive equipment on wells where load requirements are light.

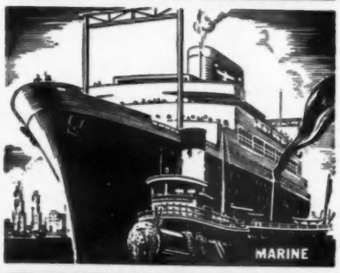
The floating barge for drilling is believed to be the only one of its kind in existence, and its history is interesting as its pontoon base was formerly the hull of a ferry boat in the river service in South Louisiana, transporting highway traffic across the Atchafalaya River at Morgan City prior to construction of the bridge now used. Cron & Gracey foresaw possibilities offered for shallow drilling and opportunity for working over deep wells from floating barges, and recognized the ferry with its double-pontoon floats and unusual length as the answer to such requirements. After obtaining the ferry from its owners, all superstructure and decks were removed and new decking constructed, while the pontoons were braced throughout to allow concentration of load in the center. The pontoons have an over-all length of 128 feet, and each has a width of 13 feet, which, when floats are placed parallel and spaced 16 feet apart, provides an over-all width of 42 feet. Company engineers calculate that the bouyancy afforded by the pontoons exceeds the maximum strain that the rig is capable of placing on the barge, making sinking of the barge by excessive loads an impossibility.

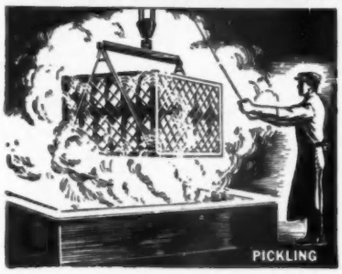
Floats Spread for Balance

The floats were separated to give sufficient spread for balance and also to furnish space for the blow-out preventer, master valve, and other equipment beneath the rotary table and designed to fit between the pontoons. The rear of the barge is floored completely across, while in the forward half, the slot between the pontoons is left uncovered to permit towing away from Christmas tree after work on the wells is completed. The two pontoons are held together in the forward-end slot by means of a tie-beam which is easily removed to allow overhead clearance for withdrawal over Christmas tree, all other horizontal beams in the slot are elevated sufficiently to not hinder movement of barge over trees of ordinary height. Standard 7-foot A.P.I. substructure rises from the steel decks for derrick, rotary and draw works, while runway bracing is constructed of welded 3½- and 4½-inch drill pipe, furnishing underneath clearance of a minimum of 9 feet with an 11½-foot ceiling under the rotary. Inside this generous substructure space is erected the principal equipment except that part situated on the derrick floor. Two 60-barrels circular steel mud tanks connected together on the aft deck supply ample mud for ordinary needs, while in addition, two tanks of equal capacity serve as auxiliaries, providing a normal mud capacity of 240 barrels, or, including all storage facilities, a possible 320 barrels. A 6 x 16-inch power-driven mud pump is placed on the flooring, centrally located between the

PARTNERS FOR THE EMERGENCY . . !







IN the industries illustrated, and scores of others, INCO Nickel Alloys have long been used for vital parts of equipment. Strong, tough, resistant to heat, corrosion and wear, these metals assure trouble-free performance, and long, economical life. As a result, INCO Nickel Alloys are now in urgent demand . . . working with former peace-time industries as "Partners For The Emergency."

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MARINE: Monel, "K" Monel, "S" Monel*, Inconel widely employed for propelling and auxiliary machinery, and in many hull applications by Navy and Merchant Marine.

FOOD: Monel and Pure Nickel equipment used in grading, preparing, cooking and canning food for the armed forces.

PETROLEUM: Inconel and "K" Monel* widely used in production and refining of fuel oil, gasoline and aviation fuels.

PICKLING: Monel equipment universally employed in pickling iron and steel for defense production.

AVIATION: Inconel widely used for airplane exhaust manifolds and fire walls; Monel and "K" Monel for structural parts, parachute harness and other accessories.

TEXTILE: Dyeing machines and tanks of Monel used in producing army cloth and other textiles for military use.

ELECTRICAL: Monel, Nickel, "Z" Nickel and Inconel used for springs, contacts and other parts of electrical equipment vital to defense.

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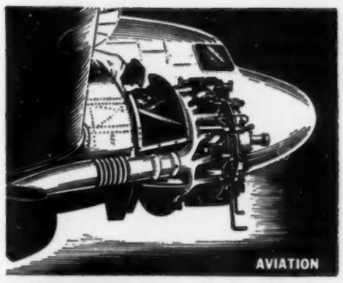

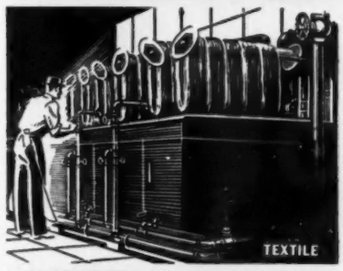

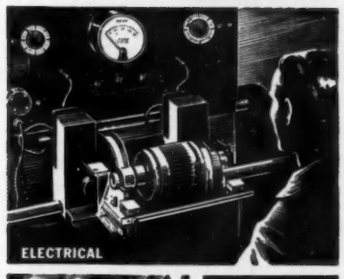

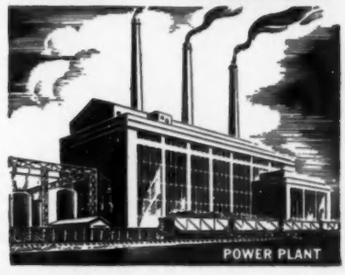

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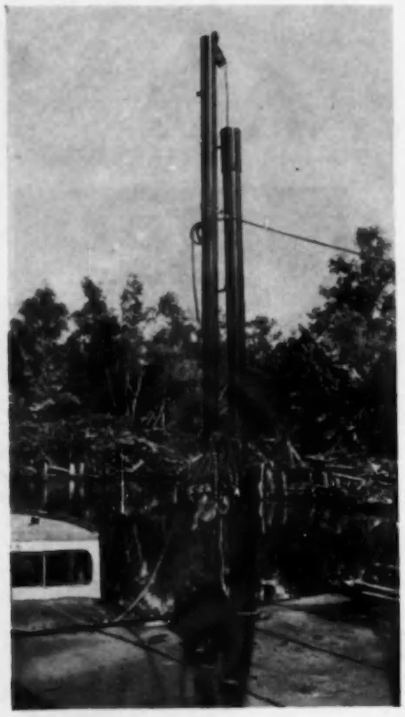
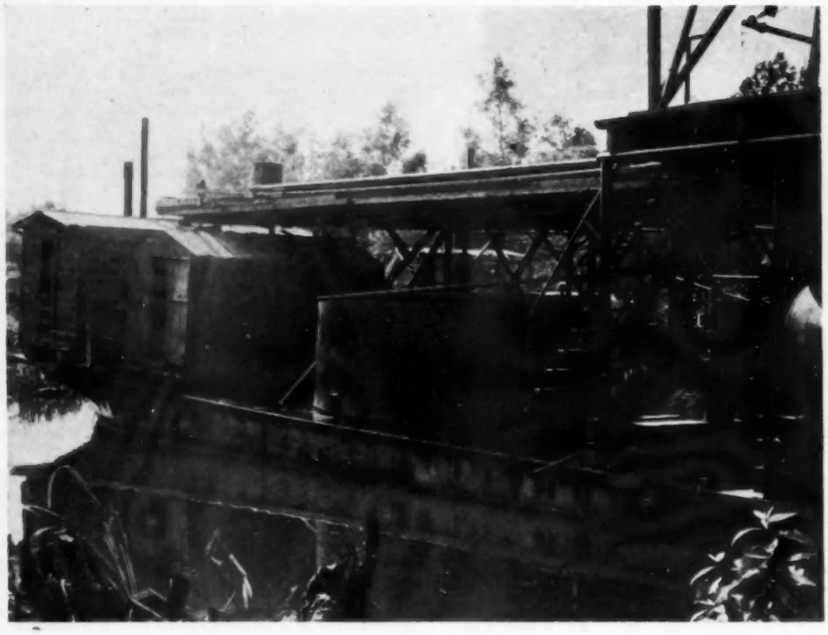


Spuds at corners of the barge anchor it in place while drilling. A 30-foot joint of 6⅝-inch drill pipe is dropped through vertical conductor and penetrates the soft bottom of the canal.



Under pipe runways a nine-foot ceiling furnishes space for tool house, guest shack, mud pits, and electric power plant; 11½-foot clearance under derrick provides room for casing head.

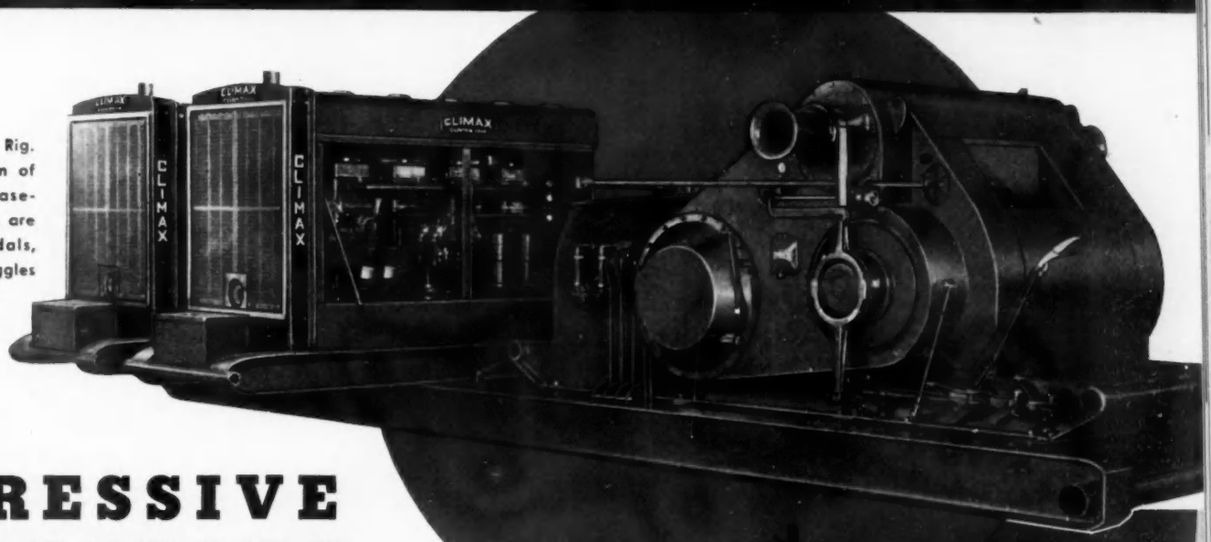
mud tanks and motivated by the principal power of the rig, consisting of two 125-horsepower diesel engines on the floor above, connected together and to the pump by V-belt, operating in addition to the pump, the 200-horsepower, friction-clutch draw works and the rotary, and supplied with fuel by two 1000-gallon cylindrical tanks for storing diesel oil, one placed on each side of the barge deck. Fuel is drawn from the tanks simultaneously, the fluid levels always being identical. Cron & Gracey engineers state that holes 6500 feet deep and drilled with 3½-inch drill pipe, or workovers as deep as 12,000 feet using 2½-inch tubing are easily possible with this equipment.

The runways are located opposite the draw works to allow lifting pipe to the floor by catline, the pipe entering through the V-door of the derrick. The 24 by 42-foot rack is sufficiently large to furnish space for the string of 3½-inch pipe needed for the depth drilling done by the rig, but to preserve balance in the barge not more than 20 joints are kept on the runway at a time, the remainder being stacked on an auxiliary barge tied alongside. Under the pipe rack is the slot, reduced to 8 feet in width by the substructure, the proper size to fit over the keyway. In addition to housing the reserve mud tanks, the pontoons on the sides of the slot provide space for a 6 x 12-inch power-driven auxiliary mud pump which is connected to all mud tanks, as well as the main water pump moved by a 15-horsepower electric motor, tool house, guest shack with sleeping accommodations for several persons, and a power plant comprised of an 80-horsepower diesel engine operating a 35-kilowatt generator to supply electric current for the illuminating system and for several electric motors. All machinery and heavy equipment are arranged carefully on the barge to give proper distribution of weight for level floating, with the derrick placed in the exact center to preserve balance regardless of the amount of pipe in the hole.

Ample Space on the Floor

Ample space on the floor is provided for drilling operations, and all possible devices are furnished for safety and efficiency, including weight indicators, mud pump pressure recorders, electric lights, and bug blowers which are essential in Louisiana operations. Derrick superstructure is designed with high safety factor to care for excessive load requirements, although the barge equipment is adapted especially for the light loads needed for the West Lake Verrett shallow drilling. Height of the derrick allows operators to pull pipe in thribles, and coring is accomplished by a reel and line situated on the floor near the draw works, with power furnished by a V-8 engine having a truck transmission. In addition, an electric motor is placed on the floor to motivate a boom for lifting pipe and heavy materials from barges. Mud is handled similarly to the way it is handled on larger drilling barges, the mud system consisting of a compactly arranged shale shaker set on a supporting frame made of 4-inch pipe, provided to extract shale and rock particles from the mud, and joined to the casinghead by a flexible hose connection that allows for rise or fall of the barge when water level in the canal changes. An open ditch made of 16-inch conductor pipe conveys mud from the shaker to the discharge tank which is connected by pipe to the main tank where the pump picks up the mud through an 8-inch suction pipe for recirculation. Both the discharge and the pick-up tanks are supplied with jet guns. Foreign sedimentary particles removed from the mud are carried from the shaker by a long open trough to the side of the

EXTRA PERFORMANCE



View of the G-42 Power Rig. Note convenient location of all control levers. Grease-packed needle bearings are used on all foot pedals, brake levers, brake toggles and speed selector mechanisms.

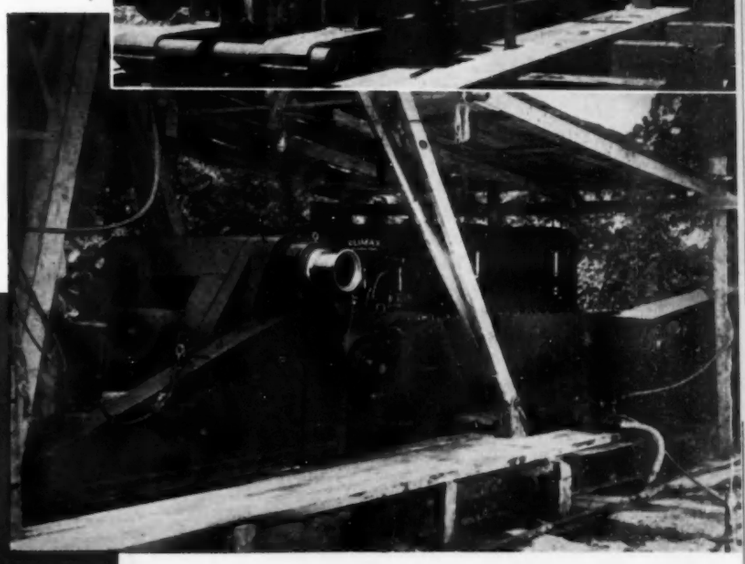
PROGRESSIVE ENGINEERING

has resulted in many unique features . . . . .

- Entire drilling unit including transmission and engines can be moved as one package, except when road clearances are restrictive. When road clearance regulations must be observed, unit is broken into three component parts.
- Friction clutches used on high drum drive of draw-works, rotary drive and slush pump drive assures smooth, high-speed operation.
- All chain drives are pressure spray lubricated. Oil is continuously filtered and sprayed inside of drives —not outside.
- Six hoisting speeds and three rotary speeds secure maximum hoisting and drilling efficiency under every operating condition. Instantaneous reverse available at all times.
- All parts of the rig are easily accessible. All friction clutches may be removed without disturbing shafts. All shaft assemblies complete with clutches and sprockets may be removed without disturbing other parts.
- Centralized controls permit full operation of rig from driller's position.

The Gardner-Denver Pump sets on the ground, giving minimum suction lift. G-D Slush Pumps are known throughout the oil country for their ability to "take it."

Note the compact, "in-line" arrangement of this G-36 Power Rig drilling in Oklahoma.



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barge and emptied into the canals. The mud pump as well as the electric light power plant and other machinery employing V-belt drive is constructed to allow its movement by jack screws to increase tension on belts.

Locating Well

Before the barge is moved into place at the location for the well, a structure called a key-way is built in the water at the site, and consists of a rectangular wooden structure having four corner posts made of sturdy piling and four 2 x 12-inch top timbers bolted to the piling, forming a box approximately 6 x 8 feet and standing two or three feet out of the water. The split end of the barge is directed over the key-way, one pontoon guided outside each of its sides with a snug fit the result, as the barge pontoons are separated from each other by the same distance, preventing lateral movement. The barge is placed in position to allow the rotary to set directly above the center of the key-way, and the tie beam is bolted on each side of the slot to strengthen the structure at its point of weakness.

For anchoring in position during drilling, two spuds are placed at each end of the barge near its corners. These are constructed of 30-foot lengths of 6⅝-inch drill pipe with pointed ends, held inside an upright casing made of 8-inch pipe that is welded through the floor of the barge. Dropping the heavy drill pipe lets it fall freely through the case and penetrate the soft bottom of the canal, securing the barge at each corner to prevent movement. A vertical hoist is constructed near spuds to allow lifting from the canal bottom when desired to move the rig, mounted on a gin pole and having a crank for winding in a cable fastened to the top of the spud to facilitate the procedure.

The barge requires only 4½ feet of water when fully loaded to its moving weight exclusive of its complement of 3½-inch drill pipe on the auxiliary barge, allowing a deck clearance of 18 inches above the water level. Only a short time is required for its movement, it being a simple task to raise the corner spuds and move rig during cementing time for work on another well such as swabbing or squeezing, then moving back to the original well in time for completion. On a recent operation, one hour was required to move rig from a completed well, and in another hour it had been placed at a different well and was swabbing. Such easy mobility gives the rig a big advantage over larger rigs for light work requirements, being an economy in speed and construction, avoiding the usual expenditures and time consumption incurred in submersible barges. Original cost is comparatively small, as many expensive and complicated features such as sea-cocks, individual water compartments and jets required in sinkable barges are not needed. At the same time, dredging costs are lessened by its use as a level canal bottom is not necessary, water deep enough for floating being the principal requisite. Canals 6 feet deep furnish ample draught for the barge, while larger drilling barges generally need 7-foot canals. To further enhance speed and simplicity in moving rig is the high centralization of equipment which permits its concentration on a single barge, eliminating need of handling several barges as is usually the case, and avoiding the resultant laying of connections from source of power to rig and installation of walkways, electric wiring, and communications.

The rig working in the West Lake Verrett area is accessible from Morgan City by boat, and drilling crews use this transportation to travel to and from their job. However, for the convenience of company engineers, tool pusher, or service men who stay at the rig overnight, Cron & Gracey provide a small house on the forward end of the barge, furnished with a double bed and cots which are placed at their disposal, furnishing comfortable quarters for guests. A well equipped tool house or dog house serves as dressing room for the crew, both structures located underneath the pipe runways, with walkways for their convenience in moving about.

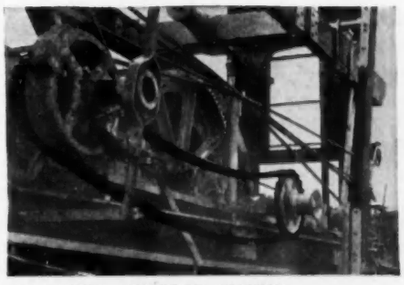
"OF COURSE I WANT LOWER COST PER FOOT OF HOLE," HE SAID

*THE REX MAN

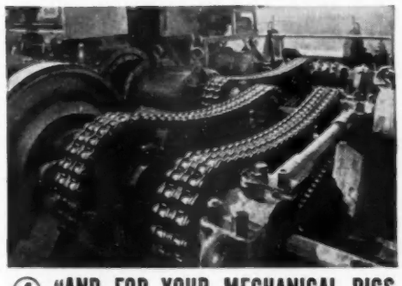
. . . AND THEN I* TOLD HIM HOW TO GET IT!

① **"YOU'RE DRILLING DEEP,"** I told this driller, "and that's where chain quality shows up most. When you get thousands of feet of drill stem down in the hole, 'sissy' chains just have to wear!

② **"REX CHAMPION IS WHAT YOU WANT!** Look at these accurately forged side bars, better-than-ordinary lubrication methods, and a force-fit assembly that is insurance against destructive rocking.



③ **"SURE, CHEAPER CHAINS** have their place. When the oil lies close to the surface, and other conditions are favorable, you can use less rugged chains. And Rex has them all, from heaviest to lightest.



④ **"AND FOR YOUR MECHANICAL RIGS,** remember that Rex roller chains can cut the cost of chain per foot of hole on 'slim hole' drilling just as effectively as Rex rotary chains do on heavier work.

⑤ **"CHANGING THE SUBJECT,** I'd like to tell you something about our new Mud Conditioner, which is a natural for removing shale, sand and cuttings faster and at low cost, with minimum maintenance."

⑥ **"I'LL LOOK INTO IT,"** he told me. "If Rex can help me get lower cost per foot of hole—and help my mud conditioning problems, too—it's worth investigating!" . . . Visit *your* Rex supply store soon!

P.S. *Investigate the Big Four of the oil fields—Rex Champion, Universal, Deepwell and Standard. Check up on Rex Roller, too, mentioned in the above imaginary conversation. Also ask for the latest news on the Rex Mud Conditioner presented in the folder above. See your Rex supply dealer or write our home office. Address, 1639 W. Bruce St., Milwaukee, Wisconsin.*

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Paleozoic Possibilities Of Northern Mississippi And Alabama

By FREDERIC F. MELLEN*

DISCOVERY of the first commercial oil field in the Gulf States east of the Mississippi River was made August 29, 1939, at Union Producing Company's G. C. Woodruff 1, located on the crest of the Tinsley Dome, Yazoo County, Mississippi. With this event came hundreds of oil men, representing large and small companies and private interests, all eager to assist in the development of the tens of thousands of square miles in the Southeastern States.

Both Mississippi and Alabama were physically prepared and anxious for oil and gas development, and welcomed the influx. In Mississippi, the state government, for some years, had been sponsoring industrial research and systematic advertising and had carried out a $100,000,000 highway construction program. Hundreds of miles of the finest highways bring the most distant points of the two states hours closer to the offices from which the oil and gas development programs are directed. The geological surveys of the two states had been active, had published numerous reports of invaluable aid to the geologists coming to the new region. Hundreds of wells had been drilled in the two states, the data from which, though of varying accuracy, now serves in the thinking and planning for future development.

An oil boom was not a new experience to some communities, although none had the pecuniary benefits that followed Yazoo County's Tinsley Dome discovery. The Fayette (Alabama) gas field was discovered in 1909, producing from the lower Pottsville, and the Amory (Mississippi) gas field was discovered in 1926, producing from the middle Chester. The Jackson (Mississippi) gas field, in which some 13- to 15-gravity oil was produced, was discovered in 1930, producing from the Selma "gas-rock" of the Upper Cretaceous.

The northeastern part of Mississippi and the northern part of Alabama cannot produce oil from the Mesozoic and Cenozoic formations, present over a part of the region, which are the most important fresh water aquifiers of the states; but the underlying consolidated Paleozoic sediments have certainly yielded more shows of oil than any other non-productive region in the United States. So far production only of gas has resulted, in the two small fields, Fayette and Amory. In 1890 Goyer, in Lawrence County (Alabama) reported a potential 25-barrel showing in the upper Ordovician at 1509-1529 feet, but other wells nearby failed to rediscover this oil.

Resume of Stratigraphy

The region under discussion is limited on the east by the Sequatchie Anticline where the upper part of the "Knox" dolomite series is exposed. These rocks, more or less cherty dolomites and dolomitic limestones, aggregating 5000 feet, have been called the "Ozarkian system"—intervening between the Cambrian and Ordovician—by Ulrich[1], and are divided in Alabama, in ascending order, as follows: Brierfield, Ketona, Bibb, Copper Ridge, and Chepultepec, formations or dolomites. The "Knox" series has nowhere in north Alabama or northeast Mississippi been drilled through, nor have the underlying Cambrian shales, dolomites, limestones, and sandstones been tested for oil or gas. In the upper part of the "Knox" are porous zones, some of which are very sandy. These zones are stratigraphically equivalent to the St. Peter of Kentucky and Tennessee.

Overlying the dolomites are some 500 to 800 feet of Ordovician limestones, belonging to the Stones River and Black River series, almost free of chert, and showing so much variation in texture and in color shades of brown and gray as to render subdivisions from well cuttings impracticable. The green bentonitic Pencil Cave shale has been identified near the top of this section in several wells in Madison County, Alabama. It has not been reported from wells westward in Alabama or in Mississippi, and is not present in wells at the Mississippi-Alabama line near Iuka. Another green bentonitic (?) shale, associated with some dark carbonaceous shale, is present, in part of the region, about the top of the dolomite. These limestones yield most of the oil of the Upper Cumberland District, Tennessee and Kentucky, and have given some of the best shows of oil and gas in northeast Mississippi and north Alabama. In Semmes' report the unfortunate inclusion of these strata, with overlying beds of Trenton age, in his "Trenton limestone"[2] has lead to considerable confusion in the nomenclature of the region.

The Middle Ordovician is represented by the Hermitage, Bigby, Cannon, and Catheys formations, of the Trenton series. These rocks are slightly phosphatic, dark-gray silty, limy shales, and shaly or crystalline limestones, containing a small amount of chert. The thickness is commonly 200 feet or more in Tishomingo (Mississippi) and Colbert (Alabama) counties, but the unit thins eastward in Alabama. Both top and bottom of this unit contrast sharply with superjacent and subjacent formations; and it is, therefore, one of the best stratigraphic markers of the region. Fresh cuttings from this unit emit a strong hydrocarbon odor, but permeability is so low that no important shows have been reported. The upper and lower Sunnybrook production of Tennessee and Kentucky is from these rocks.

The Silurian system is repre-

* Consulting Geologist, Iuka, Mississippi.

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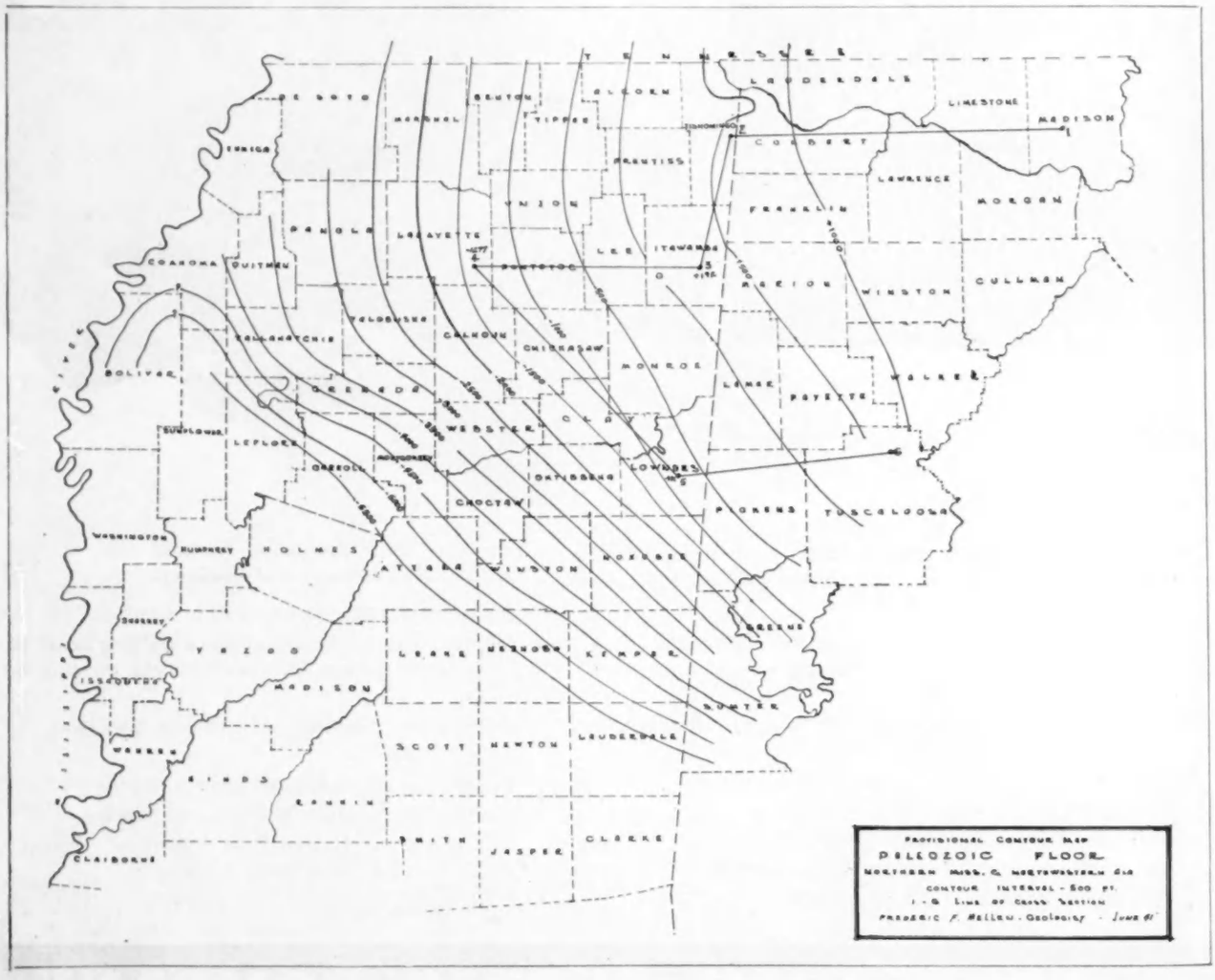
sented over most of the region by about 100 feet of reddish, greenish, and cream-colored limestones and shales, chiefly of Wayne formation of Niagara series. Five to 10 feet of glauconitic coarsely crystalline pinkish Brassfield limestone at the base of the Wayne is an excellent stratigraphic index. A strong hydrocarbon odor was obtained from the Brassfield in Mellen & Gear's Wood 1 in Tishomingo County, and it is possible that production will be found in parts of the region in the Brassfield horizon. The red and green colors of the Wayne serve to distinguish part of the Silurian section in this region: no other Paleozoic beds are red except in the uppermost Mississippian Chester.

Overlying the Silurian "red-rock" are from about 20 to 300 or more feet of bluish-gray siliceous limestone, part of which is undoubtedly upper Niagaran and part of which is lower Devonian. Some unimportant shows have been recorded from these beds.

The Chattanooga black shale, of late Devonian age, ranges from feather edge to 30 feet in thickness. Through most of the region beds of sandstone (Hardin or Frog Mountain) persist in the lower portions. The Chattanooga is everywhere petroliferous, emitting from freshly broken pieces the odor of oil. The sandstone beds are better developed in the western part of the region and in west-central Tennessee, but they are so well cemented with lime that they would make poor reservoir beds. The Chattanooga shale, typically a coal-black fissile shale, is the most easily recognized and most extensive key horizon in the region. It appears, however, to be missing in parts of Mississippi, both on the outcrop locally in Tishomingo County, and in deep wells in north-central Mississippi.

Overlying the Chattanooga is the Maury green shale, normally 1 to 3 feet thick, sandy, phosphatic and glauconitic. The relation of the Maury to the Chattanooga is thought to be that of disconformity, especially as the glauconite ranges upward into shaly limestone of undoubted Mississippian age. The Maury is one of the best horizon markers in the region.

The Mississippian system is 1000 to 1500 feet in thickness over the region. The lower 400 feet, known in north Alabama as the Fort Payne and the Tuscumbia (Warsaw and/or St. Louis), is dominantly limestone, more or less cherty. The Fort Payne is very variable in lithology, containing pure crinoidal limestone lenses, beds of soft shale, massive shaly limestone, and much thin-bedded chert, for which the unit is so well known by drillers and geologists alike. Porosity is generally lacking except locally at its base and at its top. The overlying Tuscumbia limestone is exceedingly pure in most places. In general it is coarsely crystalline or oolitic, highly fossiliferous, somewhat cherty limestone. In the northwestern part of the region it carries asphalt and



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YOU can safely turn your wire line problems over to an American Tiger Brand Wire Line Engineer. These men spend their time where lines are being used — they know what punishment they have to take, and what you can do about stretching your wire line dollar. They know wire lines—and they know their job. When you need help, call one of them. You can rest assured that you'll get the most practical recommendations—and in a hurry, too!

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FIGURE 1
An oil field that was. Part of main quarry of Alabama Asphaltic Limestone Company, Section 1-4s-15w, Colbert County, Alabama. The rock is Gasper oolitic limestone of Chester series. A million tons of rock, averaging 4.5 percent bitumen, have been marketed from this quarry in the last 15 years.

some heavy dead oil (maltha) associated with fresh water, and in the eastern part of the region it carries light oil associated with salt water. Through the Tennessee Valley in northwest Alabama and northeast Mississippi the Tuscumbia is an important fresh water aquifer for domestic supply. Wells reaching the Tuscumbia a few miles from its outcrop mostly report sulphur or salt water.

The upper part of the Mississippian, the Chester series, is very similar to the section in the Kentucky-Illinois region. A number of names have been applied to the various facies of the section by the Alabama and the Mississippi Geological Surveys.[3, 4] Across north Alabama, the lower half of the section shows considerable lateral gradation, being dominantly limestone interbedded with a few thin shale and sandstone partings in the east near Sequatchie Anticline, and dominantly shale and sandstone interbedded with a few thin limestone strata in the west near the Mississippi line. Either this lower portion of the Chester is missing in the region of Adams Oil & Gas Company's Llewellen 1, LaFayette County (Mississippi) or lateral gradation obtains—from a clastic character in northeast Mississippi to a calcareous character in north-central Mississippi. On the outcrop there is considerable dovetailing of the shales and sandstones; and though the sandstones are generally persistent enough to permit surface structural work, it is probable that downdip in the Warrior Basin they will be of minor importance as reservoirs. Nevertheless, the possibilities for numerous stratigraphic trap pools in the Chester section must be visualized. The sandstones and limestones, Figure 1, are commonly impregnated with asphalt or maltha, and it is suggested by Morse[5] that they may carry commercial petroleum downdip to the south and southwest. The Hartselle sandstone, easily recognized, is 8 feet thick on Monte Sano, central Madison County (Alabama), and westward it increases in thickness to 100 feet or more. It is the youngest, and also the most southerly and westerly Paleozoic rock exposure in Mississippi where it crops out in southwest Tishomingo County along Mackeys Creek. It is the 2400-foot productive horizon of the Amory gas field.[6, 7]

The upper half of the Chester series is fairly persistent in lithology. It is divisible to the Bangor limestone below and the Pennington shales and limestones above. The Bangor is locally a massive oolitic limestone of fair porosity. The Pennington contains some red and purple mottlings, which locally assist in correlation.

The Pennsylvanian system is represented in Alabama only by the lower series, the Pottsville, not yet divided into formations. In the lower part of the Warrior Basin, west-central Alabama, the Pottsville sediments are 3000 feet thick or more. The sediments are chiefly non-marine sandstones, shales, and coals; but at intervals in the series there are thin strata which carry marine fossils. Near the base of the Pottsville are several thick massive sandstones to which a number of names have been applied. One of these sandstones, probably the Pine Mountain, produced in the Fayette gas field. The sandstones of the Pottsville are locally cemented with silica and are practically devoid of porosity. These quartzitic facies are so extremely hard that cutting them with the drill is expensive. Adams Oil & Gas Company's Llewellen 1, in LaFayette County (Mississippi) cut about 594 feet of basal Pottsville quartzitic grit and sandy shale, carrying some asphalt, Ryan & Anderson's Swoope 1 in

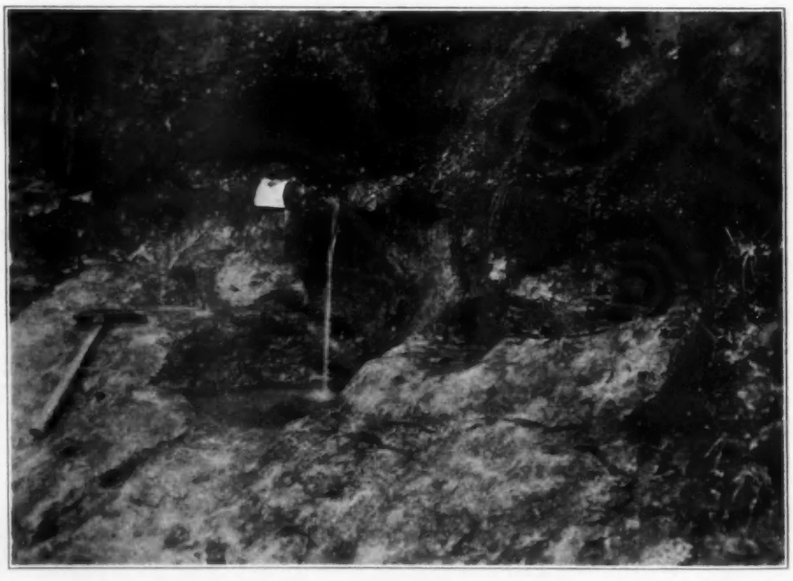

FIGURE 2

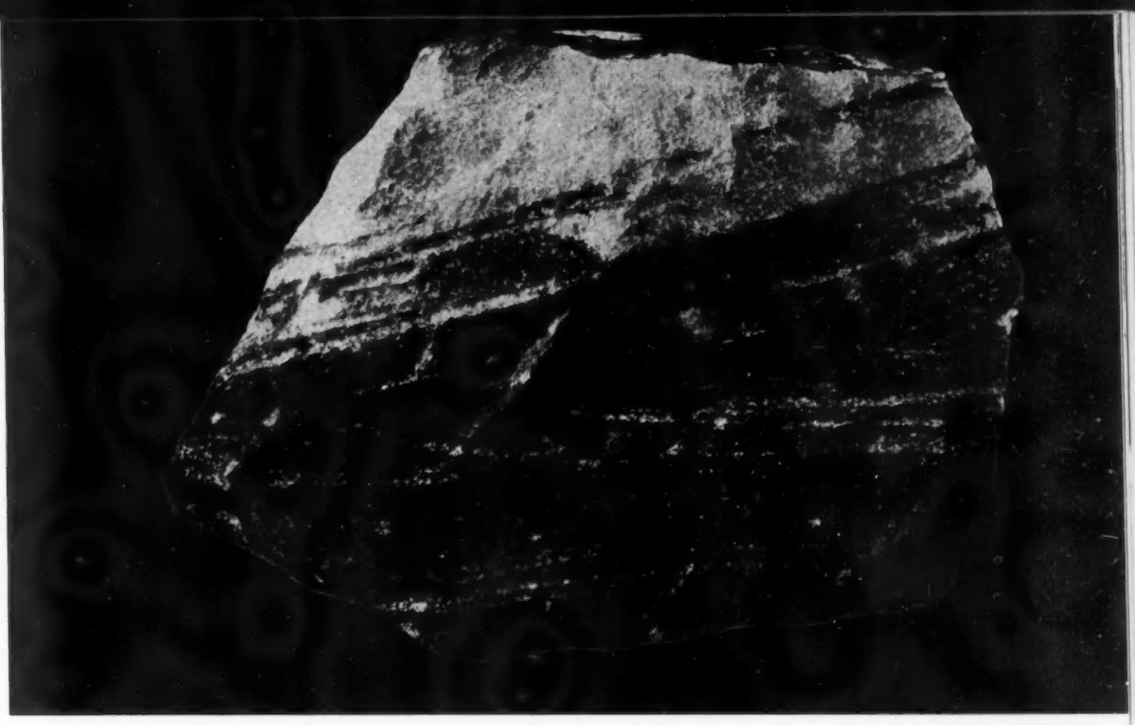

FIGURE 3

Lowndes County (Mississippi) cut about 2890 feet of Pottsville to a total depth of 4006 feet, probably without reaching the lower sandstones of the series. In this test the Pottsville appears to be, in large part, hard dark-gray sandy marine shale, interstratified with well-cemented sandstones of low porosity. In Gulf Refining Company's Parker 1, Montgomery County (Mississippi), about 800 feet of dark-gray sandy shale was cut. It appears that west of the Warrior Basin in Mississippi the Pottsville is more shaly and more quartzitic, and that the most favorable area for oil or gas production from the Pottsville is in the Warrior Basin proper of west-central Alabama and adjoining parts of eastern Mississippi.

The overlap of the Paleozoic surface by the Upper Cretaceous sediments marks the greatest unconformity in the region, one which has had more to do with the oil and gas prospects of the region than any other geologic factor. In Lauderdale County, Tennessee, wells of Pure Oil Company and Raymond Gear show the Upper Cretaceous sediments to lie on limestones of early Ordovician age.

FIGURE 4

Tuscumbia limestone, NE 10-4s-15w, Colbert County, Alabama, showing northeast reverse dip of Bear Creek Dome. Just north of bridge the limestone is faulted below level of Pickwick Lake. May 26, 1941.

Overlapping sediments of progressively younger ages to the south in Mississippi and southeast in Alabama, the youngest Paleozoic sediments exposed beneath the Upper Cretaceous are of the Pottsville series. Missing are the three younger series of the Pennsylvanian, the Permian, Triassic, Jurassic, and Lower Cretaceous (Comanchean) systems. The writer has pointed out[8] that the thick kaolinitic, bauxitic, and ferruginous clays underlying the Tuscaloosa gravels in west-central Tennessee, in Tishomingo County (Mississippi), and in north-west Alabama are of residual origin, formed sub-aerially; to them he has assigned the name Little Bear residuum, of Comanchean age (Figure 2). There is, of course, no way to determine the exact age of the residuum. It is obvious, however, that the materials formed *in situ* from the the Paleozoic sediments sometime during the great Pottsville to Upper Cretaceous hiatus. During this time the region was above sea level, undergoing the deep weathering characteristic of tropical or subtropical climate, suffering orogenic disturbances; and synchronously the rocks of the region were catching fresh water and probably emitting seepages of oil.

The asphalt deposits of the region (Figures 1 and 3) bear obvious relationship to the old pre-Tuscaloosa land surface: (1) In the Tishomingo-Colbert area the Tuscaloosa gravels lie nowhere higher than 500 or 600 feet above the lowest asphalt impregnations. (2) In Adams Oil & Gas Com-

pany's Llewellen 1 of LaFayette County, in the center of north Mississippi, the base of the Tuscaloosa gravel was found at 1845 feet, and the Pennsylvanian quartzites, within a few hundred feet of the base of the Tuscaloosa carried asphalt. (3) Over Marion, much of Franklin, and western Winston counties (Alabama), the Tuscaloosa gravels are exposed, and in this area the underlying Mississippian and Pennsylvanian rocks carry asphalt.

From studies of the regional geology three conclusions are reached: (1) The deposition of asphaltic oil residues in Paleozoic rocks within a few hundred feet of the base of the Tuscaloosa indicates an escapement of the volatile hydrocarbon fractions during the pre-Tuscaloosa or Little Bear epoch. (2) The accumulation of the oil residue is resultant from lateral (up-dip) migration of oils, and not from migrations vertically upward as has sometimes been postulated. (3) The more notable concentrations of asphalt are indicative of structural areas in which the prospects for commercial production of oil or gas from the lower strata should be carefully studied. These conclusions are based on the writer's personal observations, and are by no means universally accepted. There are those students of geology who see evidence to support their belief that the asphalt represents vertical escapements along the faults in the region. Because of the economic importance of this problem, and in view of the still divided opinions on the subject, the relation of present asphalt deposits to possible ultimate source reservoirs should be studied intensively.

The region under consideration is bounded on the east by the

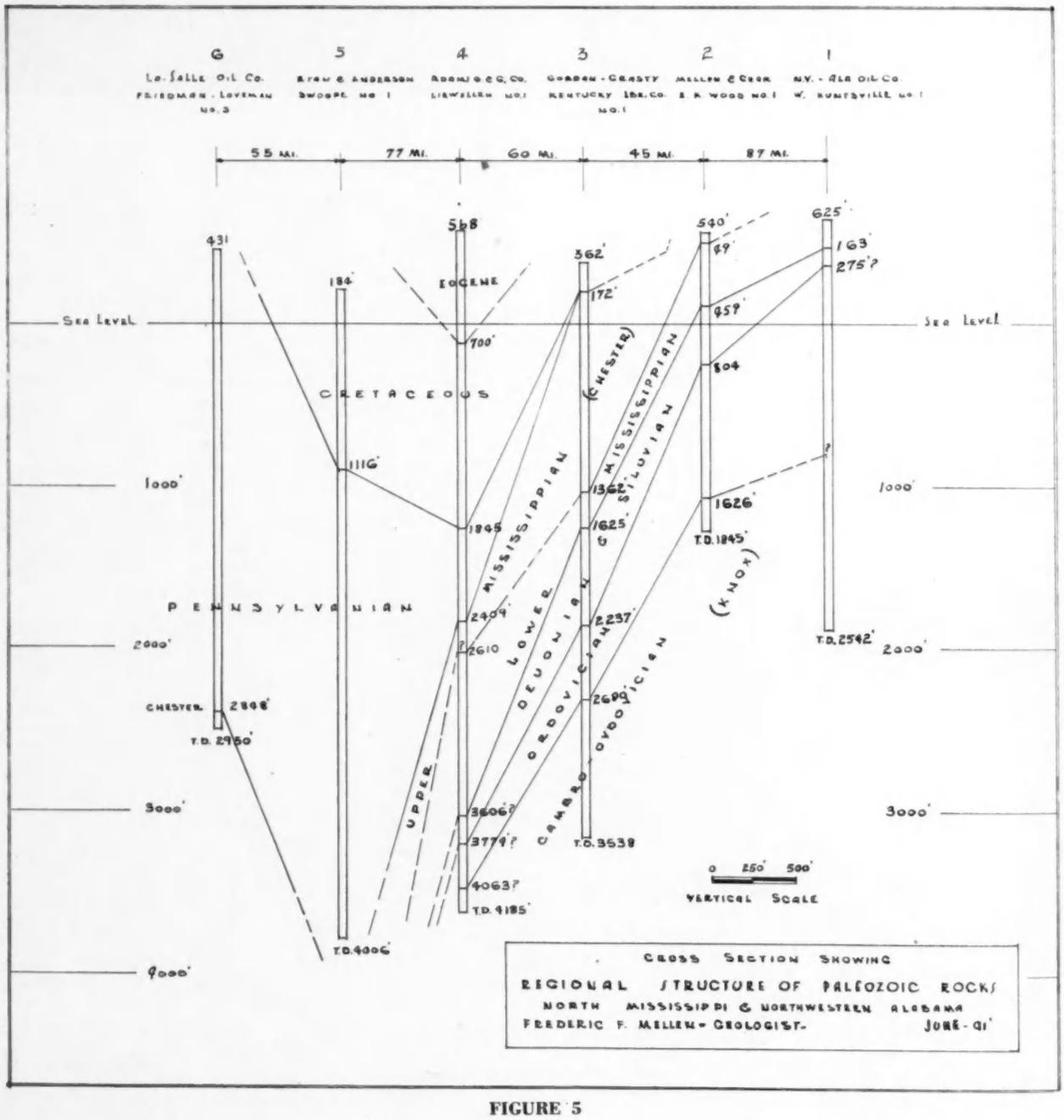

FIGURE 5

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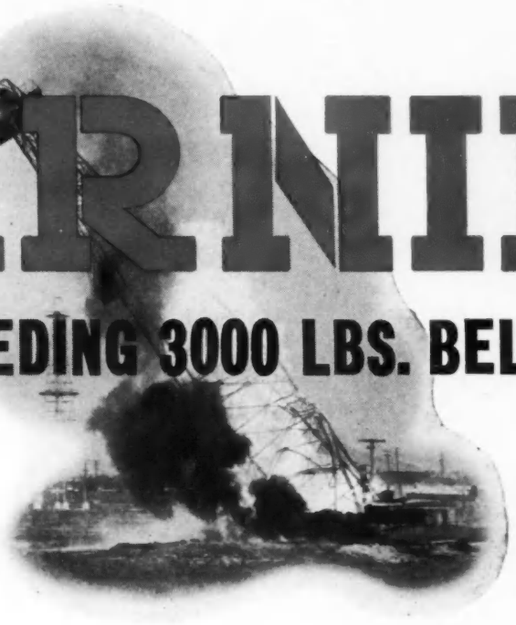

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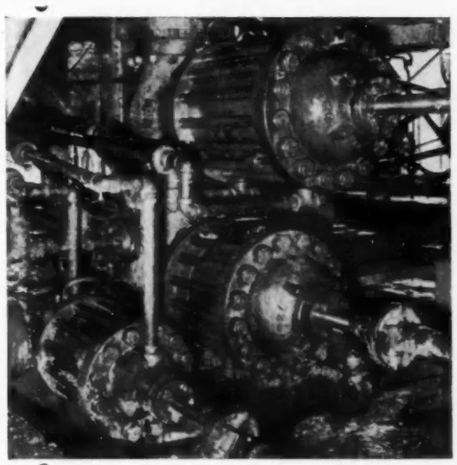

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Sequatchie Anticline which marks the western limit of Appalachian folding. To the north, in central Tennessee, lies the broad Nashville Arch. In most of the area of north Mississippi and north Alabama the regional structure is homoclinal, rising toward the center of Tennessee. The rate of dip is progressively greater with distance from the Nashville Arch, and in central Mississippi, for example, the southwest dip per mile is several times greater than in northeast Mississippi. In northwest-central Alabama and east-central Mississippi a great structural depression, the Warrior coal basin, is the second major structural feature of the region. The cross-section, Figure 5, shows the general structure.

In the area of Madison County (Alabama) a number of surface structures have been mapped or suggested by mapping. These structures are of about 10 to 30 feet of closure, and are similar in detail to structures in the Upper Cumberland producing district of Tennessee and Kentucky. Westward, and southwestward, in the Tishomingo (Mississippi) area and the Warrior basin, anticlinal and domal structures are also common.

There are many useful horizons for structural mapping, and an experienced geologist has little difficulty in locating favorable structure in much of the region. Along the Tennessee line, the black Chattanooga shale serves as an excellent horizon for structural work. South of the Tennessee River various lithologic facies and faunal horizons in the Chester series aid structural work. A number of structures have been mapped on the contact of the Tuscumbia limestone and the basal Chester.

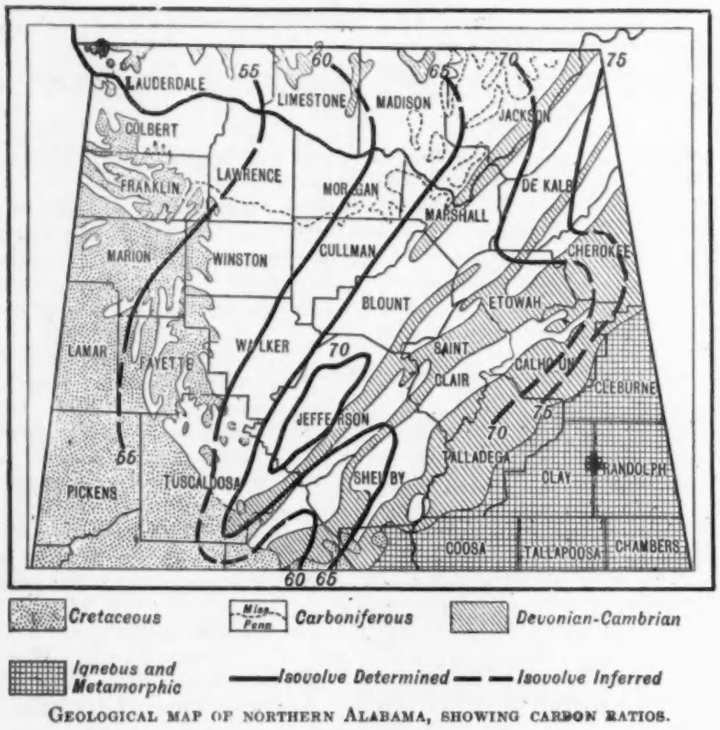
The Tuscumbia normally weathers to a bright red clay loam, the Dewey soil series, which contrasts sharply with the brown and gray soils of the overlying Chester formations. Several structures, mapped geologically, can be observed on the soil survey map of Colbert County (Alabama) as soil inliers. In other parts of north Alabama soils may prove useful in discovering structure or in confirming structural work, though soil pattern alone should never be used for the location of an oil test well.

In the Moulton Valley, of north Alabama, lying between Little Mountain and the North Alabama plateau, mapping is done on outcrops of Bangor limestone. As few key strata have been determined in the Bangor, the dip-and-strike method of structural mapping is commonly employed, and a number of structures have been mapped.

In the Warrior coal basin much detail structural mapping has been done by contouring elevations of coal seams. Sandstone-shale contacts, if intraformational, are usually reliable horizons for structural data, and marine fossiliferous horizons within the Pottsville are locally useful. Much of the information on the region has been made available from core-drilling operations of various mining companies. Surface geology, supplemented with shallow core-drilling, should prove adequate for any intelligent drilling program.

Most of the domal or anticlinal structures in north Alabama and northeast Mississippi are faulted, the faults generally lying on the north edges of the structures and striking westerly or northwesterly. The faults appear to have had an important effect on the reservoir conditions, such as impeding the entrance of fresh water and the escape of oil. For example, the Mountain Mills Dome, Colbert County (Alabama), faulted on the north side, carries black sulphur water in the Tuscumbia limestone, in an area where Tuscumbia is the important fresh water aquifier.

Since there are no outcrops of Paleozoic rocks in Mississippi except in Tishomingo County, and since parts of west-central Alabama are also covered by gravels, sands, clays, and chalks of the Cretaceous and Eocene systems, difficult problems of structural prospecting arise. The age of the Paleozoic structure is not well-known, and structural features in the Cretaceous and Eocene sediments may or may not reflect deep-seated Paleozoic structures. Numerous faults and gentle folds have been noted, some of which have been recorded by Stephenson and Monroe.[9] The large cryptovolcanic (?) structure recently drilled by Gulf Refining Company's Parker 1 in Montgomery County (Mississippi) showed the Cretaceous over 1000 feet higher than normal and the Paleozoic floor about normal, thus having the appearance of post-Paleozoic and super-Paleozoic origin. In the last 18



GEOLOGICAL MAP OF NORTHERN ALABAMA, SHOWING CARBON RATIOS.

FIGURE 6

Isocarb (or isovolve) map of northern Alabama, showing increasing metamorphism toward the east. The increase in fixed carbon is accentuated by the fact that the analyses used to compile this map were not of coals of one stratigraphic horizon.

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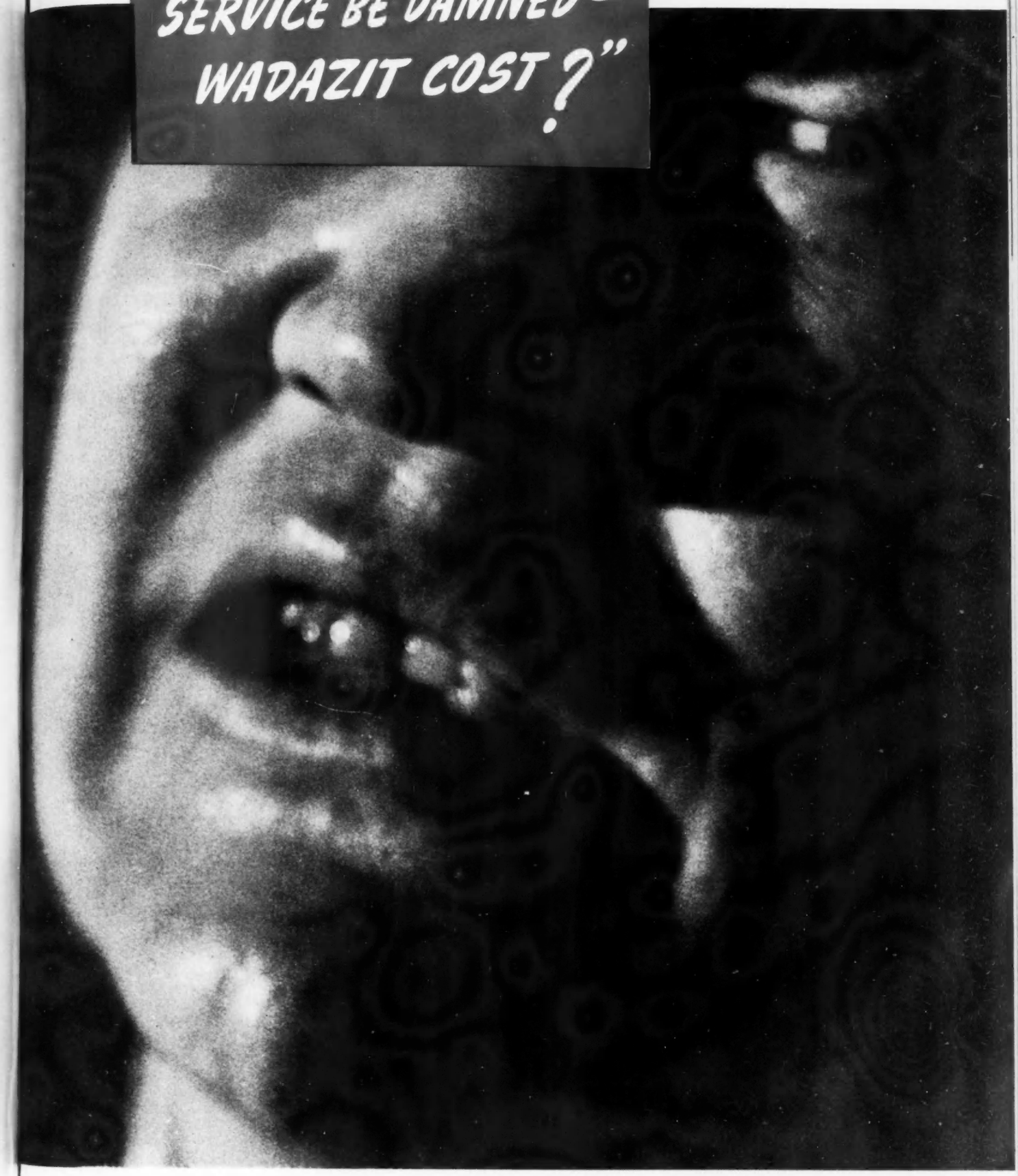

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months, however, several companies have had planetable parties and geologists engaged in mapping Cretaceous and Eocene contacts and fossil zones in areas in which production would necessarily be from the deeper Paleozoic rocks. Seemingly, the seismograph is successful in Monroe County (Mississippi) where one major company has been doing work for over three years, has just spent over $100,000 assemblying a block of leases, and is now carrying out a drilling program. Where the Paleozoic rocks lie at shallow depth core-drilling would probably be the most satisfactory and conclusive method of finding structure.

Objective Horizons

The sandy horizon, St. Peter, in the upper part of the Knox dolomite series is the logical objective horizon for wells in the northern part of the Warrior basin and northward. This horizon in Tennessee is the subject of a recent article by Born.[10] Drilling more than 300 or 400 feet below the top of the dolomite is not advisable, although the English 1 test in Morgan County (Alabama) drilled 2600 feet into the dolomite and reported shows of oil and gas throughout.

The Stones River and Black River limestones of Ordovician ages repeatedly give shows of oil or gas, and in north Alabama might produce at shallow depths, as in Clay County (Tennessee) fields. These limestones are fairly pure, and normally not very siliceous.

A great thickness of Devonian limestone in DeSoto Oil & Gas Corporation's Gardner 1 in Lamar County (Alabama) is illustrative of the basinward thickening of some of the stratigraphic units; and though neither the Devonian nor the underlying Silurian system is regarded as potential reservoir, it must be admitted that little is known in respect to lateral changes in lithology, and of possible appearance of new units in the stratigraphic column in the deeper portions of the Warrior basin.

The porous limestone and sandstones of the Mississippian system, where drilled on structure and at depths of more than 500 feet below the base of the Cretaceous, could easily produce commercial oil or gas. In the writer's opinion the Tuscumbia limestone would make a far better reservoir than the overlying sandstones of the Chester series. The Tuscumbia is, in places at least, salt-water-bearing, and has given good shows of oil and gas. One of the difficulties of Paleozoic oil or gas production is lack of water-drive. Of the 7000 feet of rock between the Cambrian and the Pennsylvanian, the St. Peter and the Tuscumbia appear to be the most extensively permeable horizons. Wells commonly have been drilled through the Chester sandstones and limestones without finding even a flow of water.

Many relatively shallow test wells in the Warrior basin have not drilled below the Pennsylvanian, but shows of both oil and gas have been recorded by some of the wells. The Fayette gas field found its production in the Pennsylvanian. Shows of gas appear to be more numerous than shows of oil in the Pennsylvanian. Throughout the Warrior basin, both in Mississippi and in Alabama, wells located on structure certainly should drill for porosity in the Mississippian rocks as the objective, rather than be abandoned in the coal measures.

In the northern part of the region some wells have been drilled without finding porosity of any sort for several thousand feet beneath the Chattanooga shale; but in the Warrior basin some wells require as many as five strings of casing, some of these being reset, to shut off flows of water. In the region the porosity of both limestone and sandstone is very variable; but neither permeability nor porosity have been studied thoroughly.

Most of the formations are relatively soft for cable-tool drilling, and where too much casing is not required, drilling is inexpensive.

Evaluation

About 56 Paleozoic test wells have been drilled in Mississippi, and over 200 in north Alabama. Hardly a well failed to obtain shows of oil or gas, and many wells could have produced a few gallons or a few barrels of oil a day. The most successful operator to date has been W. W. Newman of Huntsville, Madison County (Alabama), who has drilled a few shallow tests and two deep tests on a small structure near New Hope. Three of the wells can produce some 39-gravity oil from depths of 200 to 300 feet in the Tuscumbia limestone, and one was pumped at a measured rate of 27 barrels of oil per day, produced with an excessive amount of salt

water. The shows of oil and gas as reported in so many wells are questioned, even doubted, by many not acquainted with the region. Not only are the majority of the shows exactly as logged, but it is almost impossible to drill a well in the region without evident shows. This is probably because of (1) the structural complications of the region, and (2) the general impermeability of the rocks, encompassing thin zones of lenticular, secondary, permeability.

Much data of vital importance to the petroleum industry either was not determined, or was not preserved from the drilling of these wells. Very few wells have had elevations run, and some of the published elevations are much in error. Imperfect or incorrect location descriptions are given on some logs. A few wells have no available logs or other useful information, and even the depths of some are not known. The logs of the majority of the wells are fairly accurate. Perhaps the greatest need for proper evaluation of the prospects of the region is for more chemical and physical data on waters and on the oil and gas shows. Little of this information is available. No analysis could be found by the writer on gas from the Fayette gas field. Waters are described as fresh, brackish, sulphur, and salt, but practically no quantitative chemical data has been determined to bear out these descriptions. It is imperative, for an intelligent understanding of reservoir conditions, that samples of waters, oil, and gas, be collected, analyzed, and properly recorded, and that gauges be run whenever practicable.

S. A. Hobson states that the reason for failure to find oil production in north Alabama is that the majority of wells are drilled off structure, and that the few wells drilled on structure were not drilled to logical objectives. The writer feels that this statement is substantially correct. Certainly more wells should be drilled where structural conditions are known to be favorable for accumulation, and to logical horizons. One large anticline was tested by six wells, the five shallow wells (165 to 255 feet) along the crest of the structure, and the deep well (2523 feet) at the bottom of the northwest flank of the anticline. Certainly no structure can be condemned by such indiscriminate drilling.

The writer feels that if the structures already known, and on which

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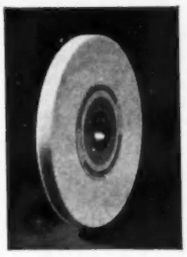
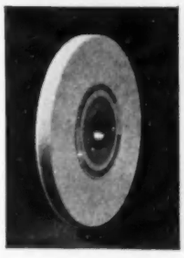

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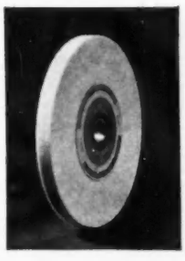
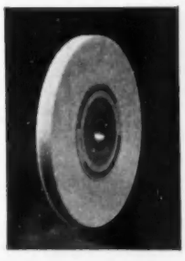

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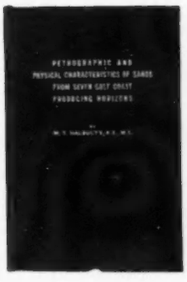

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Paleozoic Test Wells of North Mississippi

COUNTY	Company and Lease	Location	T.D.	Reached	Remarks
Alcorn	Alcorn Pet. Co., Mathew 1	14-2S-7E	2670	Cambro-Ord.	Shows oil, gas
Bolivar	Phillips Pet. Co., Perthshire 1	2-24N-7W	6009	Penn. ?	Dry
	E. S. Holmans, Thomas 1	18-24N-7W	4661	Penn. ?	Dry
Chickasaw	Harley Dev. Co., Flaherty 1	8-13S-3E	1632	Penn.	Dry
	Danner O. & T. Co., Flaherty 1	8-13S-3E	2340	Penn.	Show oil
Clay	Ohio Oil Co., Cantrell 1	16-15S-5E	4140	Miss. ?	Dry
Grenada	W. L. Stewart, Wood 1	19-22N-5E	4600	Penn.	Dry
Itawamba	G. C. Grasty, Ky. Lbr. Co. 1	7-10S-10E	3538	Cambro-Ord.	Shows oil
Lafayette	W. L. Stewart, Russell 1	9-10S-1W	2447	Penn.	Dry
	Adams O. & G., Llewellen 1	9-10S-1W	4185	Cambro-Ord.?	Show oil
Lauderdale	Magnolia Pet. Co., Culpepper 1	4-8N-14E	6341	Penn.	Dry
Lee	J. P. Evans, Whiteside 1	16-9S-7E	3207	Cambro-Ord.	Shows oil, gas
	Lee Co. Dev. Co., Hickman 1	12-8S-6E	835	Miss. ?	Dry
Lowndes	Anderson Dg. Co., Billups 1	12-18N-16E	2030	Penn.	Show oil
	Lowndes Co. O. & G. Dev. Co., Carr 1	34-17N-16E	2553	Penn.	Dry
	Ryan & Anderson, Swoope 1	3-19S-18W	4006	Penn.	Show oi
Marshall	T. B. Slick, Huffman 1	33-3S-2W	2196	Miss. ?	Dry
	T. B. Slick, Huffman 2	33-3S-2W	2200	Miss. ?	Dry
	T. B. Slick, Forte 1	36-3S-3W	3248	Miss. ?	Dry
Monroe	Amory Pet. Co., Carter 1	7-13S-17W	2412	Penn.	5,000 M gas
	Quincy Oil Co., Durrett 1	29-13S-17W	3075	Miss.	Dry
	Nat. Gas & Fuel Corp., Rye 1	22-15S-17W	2705	Penn.	5,000 M gas
	Amory Pet. Co., Dill 1	12-13S-18W	2463	Miss.	Odor
	Buffalo O. & G. Co., Crook 1	4-13S-18W	2568	Miss.	Shows gas
	Texas Co.-Ark. F. O. Co., Day 1	18-16S-18W	4100	Miss. ?	Shows oil, gas
	L. B. Mawk Co., Seavy 1	22-13S-7E	537	Penn.	Dry
	Amory Nat. Gas Co., Carter 1	7-13S-17W	2582	Miss.	149 M gas
	Ark. N. G. Co., Rye 1 (Nat. Gas & Fuel Corp. well deepened)	22-15S-17W	3710	Miss. ?	Other shows gas; not dev.
	A. M. Sutton, Acker 1	25-13S-19W	641	Penn.	Dry
	Amory Pet. Co., Hall 1	8-13S-17W	3045	Miss.	Dry
	Amory Pet. Co., Carter 3	7-13S-17W	2400	Miss.	484 M gas
	Amory Pet. Co., Harris 1	18-13S-17W	2399	Miss.	5,000 M gas
	Amory Dev. Co., Bourland 1	2-13S-19W	3007	Miss.	Shows oil, gas
	P. J. MacAlpine, Cowart 1	2-12S-9E	3795	Cambro-Ord.	Shows gas
	P. J. MacAlpine, Rye 1	22-15S-17W	2715	Penn.	Show oil
	P. J. MacAlpine, Rye 1	15-15S-17W	2931	Miss. ?	Dry
	Willmut Gas & Oil Co., Roberts 1	18-13S-17W	2879	Miss	Show gas
	Willmut G. & O. Co., Rye 1	22-15S-17W	2745	Penn.	Dry
Montgomery	Gulf Ref. Co., Parker 1	82-19N-7E	5303	Penn.	Dry
	Henderson O. Co., Col. Mut. Life Ins. Co. 1	36-21N-5E	4458	Penn.	Dry
Noxubee	Thompson O. & G. Syn., Donohoo 1	25-16N-17E	1735?	Penn.	Show oil, gas
	M. L. Clements, Donohco 1	25-16N-17E	2958	Penn.	Dry
	Thompson & Hope, Donohco 1	25-16N-17E	2165	Penn.	Dry
Oktibbeha	N. W. Shiarella, Murphy 1	28-17N-12E	4025	Penn	Dry
Prentiss	Home Dev. Co., Allen 1	8-7S-9E	2128	Cambro-Ord.	Shows oil, gas?
Tallahatchie	Gulf Ref. Co., Cason 1	2-21N-1W	5909	Penn. ?	Dry
	Roeser & Pendleton, Ogilivie 1	32-24N-2E	3976	Penn. ?	Dry
Tishomingo	Eastport old well	26-2S-11E	750?	Ord.	Show oil ?
	Iuka Dev. Co., Jourdan 1	9-4S-11E	1902	Cambro-Ord.	Shows oil, gas
	Miss. O. & Ref. Co., Morgan 1	18-5S-11E	2875	Cambrian	Shows oil, gas
	Mellen & Gear, Wood 1	21-4S-11E	1845	Cambro-Ord.	Show gas, 40M
Yalobusha	Phillip Bros., James 1	20-11N-5W	3510	Penn.	Shows oil, gas
	Collett-Carter O. Co., Blackmur 2	12-11S-4W	3505	Penn.	Shows gas
	Acme Holding Co., Boyle 1	33-25N-7E	2835	Penn.	Dry
	C. W. Crader, James 1	24-11S-6W	3195	Penn.	Dry
	W. E. Stewart, Creekmore 1	21-24N-7E	3724	Penn.	Dry
	W. E. Stewart, McRee 1	25-24N-6E	2957	Penn	Dry

St. Peter Water Analyses*

	1	2	3
Suspended solids	.....	.....	10,867
Dissolved solids	4520.00	750.99	1,676
Bicarbonate radicle	309.88	256.20	354
Chloride radicle	2300.00	260.00	51
Sulphate radicle	65.82	63.78	.....

1. Home Development Company Annie Allen 1, Prentiss County, Mississippi; depth 2128 feet; Mississippi State Chemical Laboratory, analyst.
2. Charles Alsworth's Brown 1, Wayne County, Tennessee; depth 930-960 feet; Mississippi State Chemical Laboratory, analyst.
3. Mellen & Gear No. 1 Alsobrook, Colbert County, Alabama depth 1675-1679 feet; Geological Survey of Alabama, analyst.

* All determinations in parts per million.

Analyses of Natural Gas*

	1	2	3
Carbon dioxide	0.0	0.15	0.33
Oxygen	0.3	0.08	0.11
Methane	95.5	96.92	92.57
Ethane	3.0	1.41	...
Nitrogen	1.2	1.44	6.99
Sulphur	0.0	....	....
Helium	...	0.12	...
B.t.u.	1020	....	1050

1. Mellen & Gear's Wood 1, Tishomingo County, Mississippi; Black River series, depth 1053 feet; Pittsburgh Testing Laboratory, analyst.
2. Amory gas field; analysis quoted from Mississippi Geological Survey Bull. 20 (1933 ed.), p. 142.
3. Jackson gas field; analysis quoted from Mississippi Geological Survey Bull. 20 (1933 ed.), p. 141; production from Selma formation of Upper Cretaceous system; analysis given for comparison.

* All chemical determinations in percent.

maps are published, were properly drilled, additional gas production, and initial oil production for the region would soon result. The large quantities of water encountered in some of the wells already drilled show that at least some of the formations have excellent porosity and permeability; and the shows of oil and gas in the majority of the wells suggest that there must be commercial accumulations in the region. The prospects for new discoveries are additionally brighter when it is considered that even the known structures have not been tested properly by drilling.

A few companies and a large number of individuals are taking acreage, and a few wells are now being drilled or will soon be drilling. Production of oil appears to depend on a number of things, among which time is the chief factor. The possibilities of the known reservoir formations are great; and it is to be considered, also, that there is no inherent geologic reason why the Cambrian sandstones and limestones, if permeable, could not yield commercial oil or gas. These strata have never been reached by drilling; and wells 7,000 to 12,000 feet in depth would be required to test them.

Acknowledgments

William T. Foran of Standard Oil Company and F. D. Mellen of Murray, Kentucky, have very kindly given of their time in the reading, correcting, and criticism of this paper. Conversations and communications with other geologists and operators interested in this subject have subconsciously or consciously contributed to the thoughts herein expressed. The writer is also grateful to the Geological Survey of Alabama and the Mississippi Geological Survey for the loan of several illustrations, and for various other assistance.

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[2] Semmes, D. R., Oil and Gas in Alabama: Geological Survey of Alabama, S. R. 15, p. 59, 1929.
[3] Butts, Charles, op. cit.
[4] Morse, W. C., Paleozoic Rocks: Mississippi Geological Survey, Bull. 23, 1930.
[5] Morse, W. C., Mississippi Geology: Oil, Feb., 1941, p. 39.
[6] Jillson, W. R., Geology of the Amory Gas Field: Oil & Gas Journal, January 26, 1928, pp. 58 ff.
[7] Lowe, E. N., Geology and Mineral Resources of Mississippi: Mississippi Geological Survey, Bull. 20 (1933 edition), p. 142.
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[9] Stephenson, L. W., and Monroe, W. H., The Upper Cretaceous Deposits: Mississippi Geological Survey, Bull. 40, pp. 34, 56, 219, and 222, 1940.
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OIL WEEK EDITION

BAASH-ROSS News

BAASH-ROSS TOOL COMPANY • LOS ANGELES • HOUSTON • NEW YORK

A MONTHLY BULLETIN COVERING NEWS OF EQUIPMENT AND OPERATIONS IN THE PETROLEUM INDUSTRY

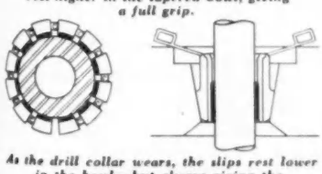
THE NEWEST SAFETY DEVELOPMENTS TO PREVENT COSTLY FISHING JOBS

New Type Slips Wrap Around Pipe Automatically Compensate For Wear

Even the most seasoned oil men have been known to tremble in a cold sweat when confronted with the problem of supporting a string of streamlined drill collars in the rotary table while making-up or breaking them out of a drill string. The trouble with conventional slips is that, as the drill collars wear from the abrasive action against the wall of the hole, the slip segments are unable to compensate for the reduced diameter of the collars. As the diameter diminishes, less and less slip area is in contact with the collar until finally the slips fail to hold and the string drops down the hole.

NEW! BAASH-ROSS DRILL COLLAR SLIPS—*Illustrated is the type "C-S Long" with extensions to provide a seat for Safety Clamp (see column 3). Type "C-S Regular" is similar but without extensions above gripping surface.*

When the drill collar is new, the flexible slips rest higher in the tapered bowl, giving a full grip.



As the drill collar wears, the slips rest lower in the bowl—but always giving the same full grip!

ORDINARY SLIPS

With new collars give adequate grip. *As collar wears give less and less grip.*

Baash-Ross tackled the problem and finally worked out a special drill collar slip that works like a charm. The slip segments are narrow and mounted together in a flexible link arrangement that permits them to wrap around the collar like a chain tong. As the drill collar wears and its diameter becomes smaller, the Baash-Ross Drill Collar Slip automatically adjusts itself so as to give the same full slip contact as when the drill collar was new. In fact, as much as 1½" change in the *diameter* of the pipe (almost 5" circumferential measurement) will not affect the gripping efficiency of this new Baash-Ross tool!

Just Off the Press—**Send for your copy of Bulletin 13B fully describing this newest safety development!**

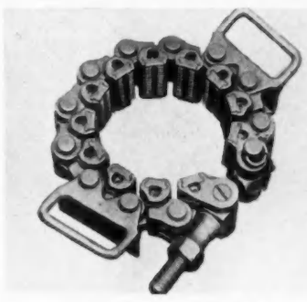
Baash-Ross Drill Collar Slips are available in two types—"Regular" and "Long." The "Long" type is especially designed for use with the Baash-Ross Safety Clamp to insure *double* safety under all conditions. This type has an extension above the slip segments to provide a seat for the Safety Clamp. Both the "Regular" and "Long" types have renewable liners to insure maximum operating efficiency at all times with minimum maintenance costs.

A set of Baash-Ross Drill Collar Slips together with a Baash-Ross Safety Clamp is one of the best safety investments you can make to protect your well against costly fishing operations . . . *and it's an investment that will last for years.* Your nearest Baash-Ross representative will be glad to give full information!

HERE'S ONE FOR THE BOOKS

Alta Loma Field, Texas Gulf Coast: When a well went wild here and could not be controlled, the operator put down a directionally-drilled hole a short distance off. This well drilled into the discovery well at 8450 feet, diverting the flow while pipe stuck in the wild well was cut and pulled, casing run, and the wild well completed for a producer. Then the directional hole was plugged back, straightened, and drilled to the pay for a *second* normal producer.

This must establish *some* kind of a record for making the most of a situation!



A MULTI-GRIP SAFETY CLAMP FOR FLUSH JOINT EQUIPMENT

Here's a new tool that no drilling rig should be without—*the Baash-Ross Safety Clamp.* It's a tool that enables you to handle flush joint pipe, streamlined drill collars and similar flush-surfaced equipment with complete safety at all times. It wraps around the pipe in a jiffy and only a few quick turns of a socket wrench are required to fasten it firmly in place.

Once applied, it will hold the heaviest loads without slipping, because each individual link has a *separate* gripping member that automatically adjusts itself to the load. These gripping members are in reality small tapered slips dovetailed into the link bodies. When the clamp is tightened these slips take a firm initial grip on the pipe. As the load increases—or should a sudden impact loading occur—the tapered slips wedge themselves even tighter against the surface of the pipe, forming a grip that will not fail. Yet the instant the clamp is loosened with the socket wrench, the slips release their bulldog grip so that the clamp can be readily removed.

It is important to note that the clamp, being flexible, takes a solid grip on *any* pipe surface, whether it's out-of-round or not. And because it grips uniformly *at all points*, it will not crush thin-walled pipe under heavy loads. Links can be quickly added or removed on the rig so that the clamp can be made to fit any size pipe from 3¾" diameter up to as large as desired. A neat steel case is provided for storing the extra links—as well as the clamp and wrench—when they're not in use.

Your copy of Baash-Ross Bulletin No. 6-B, telling all about this inexpensive Clamp is ready. Why not send for it *now?*

CAN BE USED WITH DRILL COLLAR SLIPS

The use of this clamp with the Baash-Ross Drill Collar Slips described at left gives *double* protection against dropping drill collars through the rotary table, no matter how worn or out of round they may be.

Also, when need for an elevator shoulder arises this clamp is ideal. On a recent fishing job, for example, it lifted a string of *approximately 4000 feet* of 4½" drill pipe plus *five* 7¾" drill collars when used for this purpose.

DRILLING CHAINS should always be kept well lubricated. Dryness causes chain bearings to freeze under heavy loads. This in turn prevents free flexing, causing the chain to miss the proper sprocket seat. The resulting impact load leads directly to chain breakage.

BAASH-ROSS

***INSURANCE RECORDS SHOW* that many serious boiler accidents are caused by using fine-threaded valves on the gauge glass. When the gauge glass breaks, the operator often is seriously burned while trying to close the valve. The remedy—use valves that can be closed quickly with one turn or less. Check your boilers and make sure they have this safeguard.**

BAASH-ROSS

SPEAKING OF SAFETY *reminds us—Did you know that Baash-Ross makes a Safety Joint for use in the fishing string that can be turned in an* ***unscrewing*** *direction—(in addition to the normal direction) without loosening until the operator wants it to? It's ideal for fishing work where tools are used that must be rotated backwards to operate. Another thing—it's available made of drillable metal, if desired, for* ***complete*** *well safety. Its name? The Baash-Ross "Autolock" Safety Joint!*

BAASH-ROSS

WRESTLING WITH HEAVY DRUMS of engine oil, resting either on make-shift racks or none at all, is an ever-present source of injury. One operator built a special rack holding six rectangular 55-gallon tanks (the type used in service stations) equipped with visible measuring pumps. Result—increased safety, greater convenience.

BAASH-ROSS

A RECENT SURVEY *of fatal drilling and production accidents in one district discloses that an even 50% were caused by workmen being struck by falling equipment . . . another 21% by the workmen themselves falling from the derrick . . . and the rest by miscellaneous causes.*

BAASH-ROSS

71% OF THE FATAL ACCIDENTS being caused by either equipment or workmen falling is something to think about. For a long life, keep yourself out from under anything being lifted . . . keep your eyes alert for dropping objects . . . keep your hard hat and safety shoes on at all times around the rig . . . and always remember to fasten your safety belt when working in the derrick!

Practical Operating Hints for

THE practical operating hints for the drilling rig and production man, appearing in these features each week, are secured from oil fields everywhere and offer suggestions that will help to improve field efficiency and safety. The items give an excellent picture of the remarkable ingenuity being exercised by the operating divisions of the industry. Contributions to these features will be paid for at the rate of $5 for each illustrated item accepted. Address contributions to "The Editor, THE OIL WEEKLY, Houston."

1. EQUIPMENT CARE

Structure with Opening Sides Protects Boiler Pumps from Weather and Prowler Damage

Structure houses boiler pumps, protecting them during bad weather and shut-downs.

A GULF COAST drilling contractor protects his boiler pumps from damage by the weather and from prowlers during shut-down time by constructing a steel housing for the pumps, similar in structure to his tool house, and of sufficient size amply to enclose the equipment and give the fireman a place to keep incidental materials and tools for the boilers.

Steel sheet sides of the structure are hinged at the top to open vertically, and are propped wide open by arms for ventilation during drilling operations. During inclement weather or shut-down periods, elbows on the supporting arms are bent and the walls lowered to protect the engine, sometimes padlocked for safety.

The shed is made of steel, including floor and roof, and electric connections are furnished for illumination.

2. ROPE HANDLING

Cleat Anchors Cat Line When Loaded

Cleat welded to cat-line chain-guard provides convenient fastening for line.

A WELDED cleat to fasten the cat line as a safety and convenience feature is used on one East Texas rig. Constructed of heavy steel pipe material, the cleat consists of a lateral section approximately 8 inches long, with two short upright pieces for support and a flat base of ¼-inch steel plate. The long pipe sector is curved to facilitate its use with the cat line, and its ends are rounded and closed with a torch. The device is welded on the cat-line drive-chain guard.

The cleat serves as anchor when it is necessary to hold a strain on the cat line, or to hold in place for a time the material lifted by it. It is an aid to safety as well as a factor to expedite the job, as its use frees one man for other duties during that period. When the cat line is not in use, the loose end is kept out of the way of the driller and free from entanglement when secured to the cleat.

3. HOSE CARE

Circular Rack Keeps Hose Out of Mud

TO FORM a support to hold the utility hose out of the muck around the derrick, and also to facilitate putting it into service when needed, one company puts together a welded rack which is formed from a 6-foot length of 2½-inch pipe set in the ground about three feet. Fitting over this is an 18-inch piece of 3-inch pipe, to which have been welded lateral bars in the form of spokes to build up a round wheel five feet in diameter and strengthened with frequent welding of the spokes to a disc of sheet-

This rack keeps the utility hose out of the muck, ready for instant use.

iron which covers the top of the wheel.

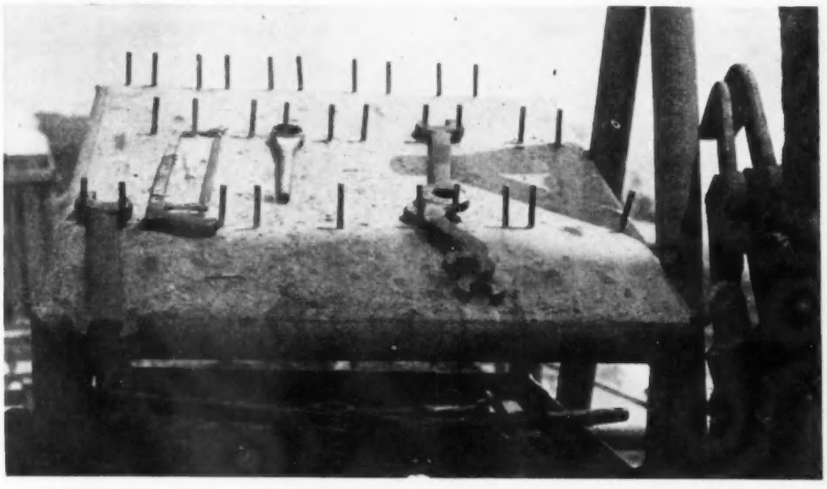
The 3-inch connecting pipe is set on top of the 2½-inch pipe, forming a movable hub.

The utility water hose is engaged by a hook at the hub of the wheel, and is wound onto the rack by turning the wheel. When brought into use, a spin of the wheel unwinds the hose and it is ready for use.

Wrenches for making up the joints in the hose connections are hung from the spokes of the wheel, and are always available when needed.—*Ira M. Carroll, Los Angeles.*

4. TOOL CARE

Fingers Projecting from Top of Tool Rack Provide Additional Storage Space



Vertical fingers on top of this rack accommodate tools of various shapes and sizes.

ONE operator on the Gulf Coast makes the top of his tool rack more practical by using vertical fingers on the top shelf or table, spaced at odd intervals for tools of various shapes and sizes to prevent rig vibration from shaking them off the table. A specially constructed rack adapted for holding wrenches, bars, and diverse tools is used, with the top of the table pitched upward at a 30° angle, tilted toward the rotary table for convenience of the crew to see and procure proper tools.

The table is made of steel plate about 3 feet square, welded to the top of supporting framework built of 2-inch pipe. At irregularly spaced intervals on its top surface, steel rods about three inches long are welded in vertical position, being ½-inch in diameter and sufficiently sturdy to stand the abuse of heavy tools. The fingers are placed in horizontal rows, and various tools are easily slipped between or over them for secure lodgment. Tilt of the top enables easy selection of the tool desired.

The tool rack is mounted on skids, and is easily moved about to a convenient place on the floor during operations. Its portability likewise facilitates movement to another rig location.

5. INSTRUMENT CARE

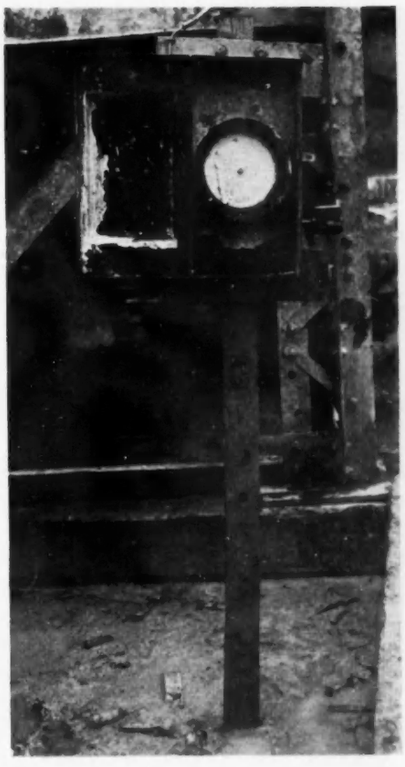
Mud Gauge Mounted Off Derrick Floor

ONE operator receives maximum efficiency from his 24-hour weight recording indicator by removing it from its regular place on the derrick floor and encasing in a box for erection near the derrick on solid ground to obtain greater accuracy in gauge readings through avoiding rig vibrations.

A steel housing about 12 x 24 inches and sufficiently deep to care for the weight recorder was constructed. It has a large hinged door in front to manipulate the mechanism, and a device for locking to keep closed when desired.

The box is bolted to a 2 x 4 wooden upright, eight feet long, which is driven into the ground a short distance from the rig and which has a pair of horizontal boards placed at the top suitable for its adequate support. Regular connections ordinarily attached to the instrument on the derrick floor are extended several feet further to join the recorder, and its operation is identical as before.

Permanent records are kept on the charts to show daily every change or addition of drill pipe joints and each trip out of the hole with the pipe, giving accurate check on the amount of weight carried on the bit at all stages of the operations. In case of a pipe twist-off, actual drilling conditions at the time and before the accident are determined. Daily charts give permanent log of drilling conditions.



This mud-weight recorder is set in the ground to eliminate derrick vibration.

Only MISSION PLUG VALVES

Combine these Features to Insure Longer Trouble-Free Service

Leading drilling con tractors and majo oil companies hav proven by actual com petitive field tests tha in all types of servic Mission Plug Valve outwear and outlas other plug valves.

If you want to reduce plug valve problems — and save money — make your next plug valve a Mission.

1. Automatic Lubrication.*
2. Full-Port Lubricant Sealing Grooves.
3. Wedge-Proof cylindrical Super-Surfaced Core.
4. Sealing Grooves on Plug never pass Ports.

1. **AUTOMATIC LUBRICATION**—Provides a constant lubricant seal • Line pressure automatically forces lubricant from reservoirs to sealing grooves • Eliminates necessity of frequent operation of lubricant screw • Ample downstream (sealing end) lubrication • Reduces friction—valve turns easily • Reduces wear and extends life of valve

2. **FULL-PORT LUBRICANT SEALING GROOVES** — Sealing grooves encircle ports — assures complete uniform seal • Provides a dependable seal against high pressures, liquid or gas • Full-Port Lubrication thoroughly lubricates plug—valve operates easily • Reduces washouts • Reduces wear and extends life of valve

3. **WEDGE-PROOF SUPER-SURFACED CORE**—Cylindrical Core positively cannot wedge—permits easy turning • Perfect fit of core to body conserves lubricant and maintains leakproof seal longer • Lubricant lasts longer . . . saves time . . . saves valves • Super-Surfaced core provides extra resistance to abrasives and corrosion agents • Reduces wear — lasts longer

4. **SEALING GROOVES ON PLUG**—Never exposed to fluid • Prevent loss of lubricant into fluid line . . . insures constant seal • Protects sealing grooves on plug from direct cutting action of fluid • Lessens intrusion of abrasives into lubricant sealing grooves . . . reduces wear on vital sealing surfaces • Prolongs life of valve

*When lubricating a Mission Plug Valve, a portion of the lubricant is forced into reservoirs. Thereafter, the line pressure AUTOMATICALLY feeds this stored lubricant, as needed, into the downstream seal grooves. So long as lubricant remains in the reservoir a perfect seal is assured.

MISSION MANUFACTURING CO.

HUMBLE ROAD • HOUSTON, TEXAS
EXPORT OFFICE: 30 ROCKEFELLER PLAZA, NEW YORK

Practical Operating Hints for

1. SAFETY

Two-Inch Pipe Fastened to Supporting Jack Girders Provides Support for Wire Guard

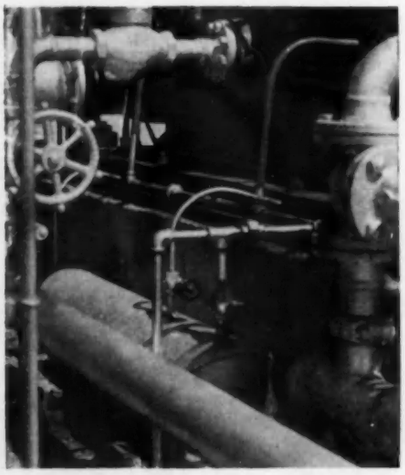
Guard of hardware cloth surrounds pump pitmans, crankpins and counterweights.

A STURDY, yet easily demountable base for a guard surrounding pitmans, crankpins, and counterweights of unitized pumping jacks, may easily be made by cutting a hole large enough to accommodate a 2-inch pipe through each of the two I-beam girders supporting the jack at a point between the reduction-gear case and the wellhead end. A 2-inch pipe then is slipped through these holes, and allowed to extend out on each side of the unit. The corner posts of the guard are then set in holes that previously have been cut through the pipe. The guard itself, made by welding heavy hardware cloth to uprights of used sucker-rod material, is easily assembled or dissembled from the simple supports.

This type of support is of particular value on pumping units moved from one well to another for potential demonstrations or special tests.

2. LUBRICATION

Blow Case Collects Oil Passing Plunger



Oil leakage past plunger is collected in tank at the end of the pump barrel.

TO CONSERVE packing, it is advisable to permit slight leakage past the plunger. Excess fluid may be wiped clear by the single ring of packing in the wiping gland, and collected in a sump at the end of the pump barrel.

This waste fluid may be advantageously collected in a blow case or cylindrical container, into which the sump drain is tied. If the container is equipped with a gauge glass, the amount of fluid collected may readily be ascertained, and the case cleared when necessary.

To handle the accumulation of fluid, the valve in the sump drain line is closed, as is also the stopcock in the air vent line. Compressed air then is admitted on top of the accumulated fluid, and the contents forced out through the drain in the bottom and passed back into the suction line or into some other container for disposal.

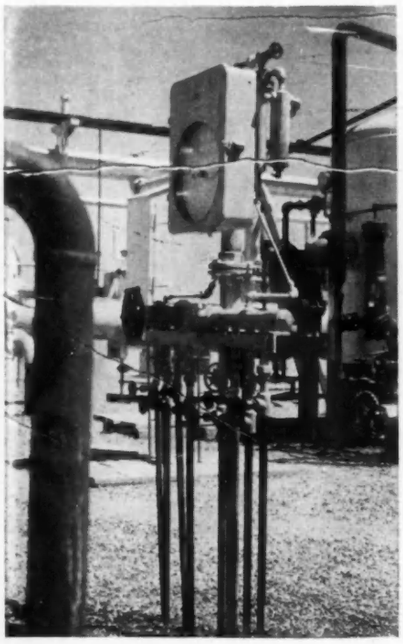
The vent line, permitting displacement of the air within the case as fluid enters from the sump, preferably should be tied into the pump base, or the sump itself in case of overflow. In either case, presence of waste fluid is evidence, in addition to the neglected showing of the gauge glass, that the system needs clearing.

3. METERING

Separate Flows Are Shown on Same Chart

WHERE it is unnecessary to set individual meters to record flows carried separately through a pipe system, it is possible to utilize one recorder to obtain comparative curves on the same chart.

The metering flanges and orifices are installed in the usual man-

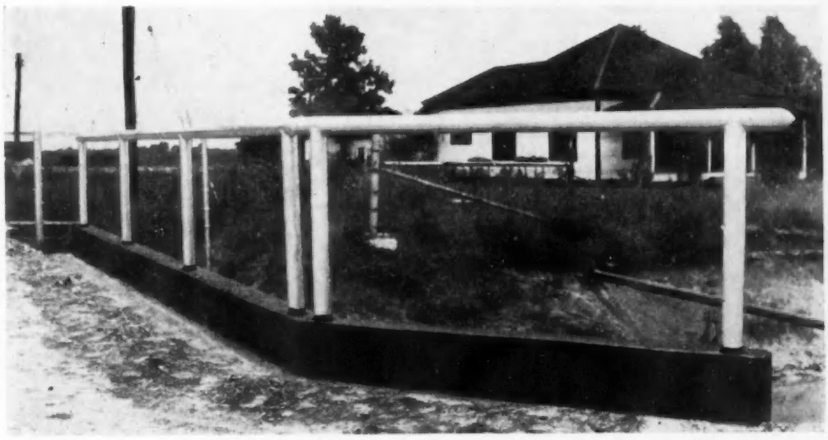


This recorder has been unitized to record separate flows through the line.

ner, at required points in the lines through which gases or liquids are to be carried. The ¼-inch static and differential lines, instead of being tied in directly to a meter in the neighborhood of the flanges, are carried to a header or manifold at some convenient point where the recorder lines may be brought together.

With each line tied into the manifold with the usual needle valve for flow control, it is possible to regulate any pair of valves and thus actuate the recording pen to place on the chart the curve corresponding to the quantity moving through the desired flow line.

To provide full record of flow, it is necessary only to mark each change of flow on the chart, either by venting the pressure chamber to atmosphere, or by hand marking the chart at the same time some designating symbol is placed alongside the curve.



This sturdy fence can be removed from its concrete base when culvert needs repair.

4. SAFETY

Fence Removable From Concrete Base

TO PREVENT accidents at a bridge across the deep drainage ditch near the entrance of a company camp and field office, one operator constructed concrete curbings along each side of the crossing. They are about one foot high and one foot wide. In the top of the concrete, several pieces of 4-inch pipe are set and cut off flush with the top of the concrete, forming permanent sockets for placing the guard-rail supports.

Each rail is made in a single piece, comprised entirely of welded 3-inch pipe. Upright joints four feet long are welded to the top rail, which is also made of several pieces of welded 3-inch pipe with ends tapered to a point and sealed. The vertical pieces are spaced at intervals to correspond with the sockets in the concrete, and fit snugly into the holes.

Rails are picked up and removed as a unit when desirable to repaint, repair or work on the culvert. They form effective barriers to prevent vehicles from running off the bridge. Painted a bright aluminum color in contrast to the black concrete base, the rails are easily discernible at night in headlights of a car.

Clamp on rod line over rough terrain, connected to a dead man, curbs whipping.

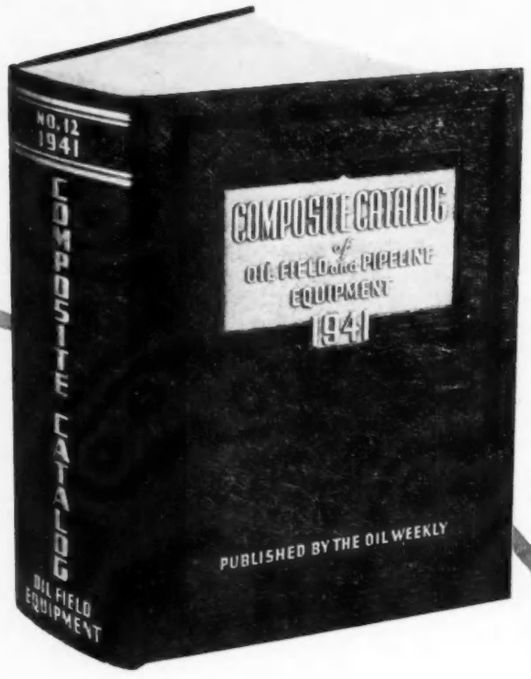
5. PUMPING

Whipping Removed From Rod Line

IN CROSSING a low area where the terrain makes it impossible to place the rod-line supports close together, one operator, bothered by lateral whipping that occurred in this sector of the line to reduce pumping efficiency and shorten life of the rod-line, uses a simple device to correct the condition.

In the center of the troublesome section, a clamp is placed on the rod line, containing an eye that extends from it at right angles. Through the eye, a 25-foot length of sand line is run and clamped to it, with the other end of the sand line fastened to a dead man to hold a lateral strain on the rod line. In the section near the dead man, a turnbuckle is placed to allow changing the tension held on the line when necessary.

As the clamp is fastened directly to the rod line and there are no pulleys operating, the device has a stabilizing effect on the line, at the same time giving a freedom of motion that creates little additional friction. As a result, the device operates with no increased power requirements, and produces no unusual wear on the line.



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THE COMPOSITE CATALOG

Drilling Activity Greatest Since Fall of 1937

ENCOURAGED by better prices for crude oil and the prospect of continued strong markets, the oil industry of the United States currently is engaged in the most active drilling campaign since the fall of 1937.

Operators completed in July more wells per day than in any month since October, 1937, and nearly equaled the records of mid-1937 and 1920, most active periods in the history of the industry.

The dominant influence of crude prices on drilling is attested by the fact that completions now are running 40 percent higher than in the early months of this year, following two moderate general increases in crude postings, although the increase has been partly seasonal.

During July, completions in the United States averaged 98.3 daily, compared with 90.5 daily in June and around 70 per day in the first three months of the year. In July of last year, the average was 87.3.

Continued active drilling—probably a further increase—is indicated, moreover, for August, as 4819 rigs were in operation August 1 compared with 4598 on July 1.

STATE OR DISTRICT	TOTAL RIGS IN OPERATION (Drilling, Rigs Up, Shutdown)				DETAILS OF AUGUST 1, 1941 FIELD ACTIVITY					
					Rigs in Operation			Prelim. Activity		
	Year Ago Aug. 1, 1940	Month Ago July 1, 1941	Now Aug. 1, 1941	Percent Change From Year Ago	Drilling	Rigs Up	Shut Down	Derricks	Locations	Total Operations
Alabama	4	5	5	+ 25.0	3	....	2	1	....	6
Arizona	7	5	5	— 28.6	....	....	5	....	....	5
Arkansas	14	29	32	+ 128.6	25	2	5	2	1	35
California	283	284	272	— 3.9	180	59	33	....	131	403
Colorado	29	27	29	.....	10	....	19	....	1	30
Florida	....	2	2	.....	....	....	2	....	....	2
Georgia	....	2	1	.....	....	....	1	....	....	1
Illinois	410	353	359	— 12.4	277	39	43	11	43	413
Indiana	96	68	72	— 25.0	66	3	3	....	27	99
Iowa	3	3	3	.....	....	....	3	....	....	3
Kansas	273	263	292	+ 6.9	251	30	11	15	18	325
Kentucky	46	42	32	— 30.4	26	3	3	....	2	34
Louisiana	173	200	214	+ 23.7	178	16	20	25	84	323
North Louisiana	44	77	82	+ 86.4	58	10	14	12	3	97
South Louisiana	129	123	132	+ 2.3	120	6	6	13	81	226
Michigan	146	154	160	+ 9.6	112	22	26	21	34	215
Mississippi	34	23	38	+ 11.8	28	4	6	4	4	46
Missouri	16	14	13	— 18.8	2	....	11	....	1	14
Montana	53	59	71	+ 33.9	34	1	36	....	1	72
Nebraska	22	25	34	+ 54.5	20	3	11	1	1	36
New Mexico	122	116	117	— 4.1	74	10	33	....	25	142
New York	69	96	120	+ 73.9	87	12	21	8	20	148
Ohio	310	309	284	— 8.4	205	29	50	19	48	351
Oklahoma	318	355	391	+ 22.9	296	53	42	22	32	445
Oregon	1	3	....	.....	....	....	....	....	....	....
Pennsylvania	420	392	501	+ 19.3	361	51	89	34	92	627
South Dakota	1	....	....	.....	....	....	....	....	....	....
Tennessee	9	8	6	— 33.3	5	....	1	....	1	7
Texas	1,102	1,422	1,421	+ 28.9	1,127	86	208	72	801	2,294
East Texas Field	9	17	23	+ 155.5	15	2	6	3	6	32
East Texas Border Co.'s	13	14	16	+ 23.0	10	2	4	1	1	18
Rest of East Texas	35	64	62	+ 77.1	40	6	16	7	10	79
North Texas	185	211	188	+ 1.6	140	9	39	11	171	370
South Texas	270	343	329	+ 21.8	277	22	30	21	264	614
Corpus Christi Area	143	183	176	+ 23.0	155	13	8	10	93	279
Laredo Area	76	99	99	+ 30.2	83	6	10	8	101	208
San Antonio Area	51	61	54	+ 5.9	39	3	12	3	70	127
Texas Gulf Coast	120	142	143	+ 19.1	119	10	14	15	101	259
Texas Panhandle	112	130	138	+ 23.2	107	17	14	1	27	166
West Texas	248	409	429	+ 73.4	362	15	52	12	199	640
West Central Texas	110	92	93	— 15.5	57	3	33	1	22	116
Utah	8	7	....	.....	....	....	....	....	....	....
Washington	....	3	....	.....	....	....	....	....	....	....
West Virginia	197	255	269	+ 36.6	194	28	47	18	46	333
Wyoming	69	74	76	+ 10.1	44	1	31	....	3	79
Total United States	4,235	4,598	4,819	+ 13.7	3,605	452	762	253	1,416	6,488

STATE OR DISTRICT	MONTHLY COMPLETIONS								CUMULATIVE COMPLETIONS—First 7 Months							
	Total			Details for July, 1941[1]					Total			Details for 7 Months of 1941				
	Year Ago (July, 1940)[2]	Month Ago (June, 1941)[3]	Latest Data (July, 1941)[1]	New Wells Drilled for Oil and Gas			Miscellaneous	Initial Oil Production	1940[4]	1941[5]	Percent Change in Weekly Average	New Wells Drilled for Oil and Gas			Miscellaneous	Initial Oil Production
				Oil	Gas	Dry						Oil	Gas	Dry		
Alabama	2	1	....	....	....	....	....	....	3	1	— 65.6	....	....	1	....	....
Arkansas	14	17	13	9	....	4	....	2,201	107	93	— 10.1	55	....	38	....	11,062
[6]California	106	96	99	85	1	13	....	41,630	651	632	.....	517	8	107	....	384,792
Colorado	1	2	2	1	....	1	....	150	4	10	+ 158.1	4	1	4	1	505
Florida	1	....	....	....	....	....	....	....	1	....	.....	....	....	....	....	....
Illinois	481	423	348	227	....	76	45	45,184	2,272	2,006	— 8.7	1,366	7	453	180	288,182
Indiana	27	54	50	22	3	21	4	3,723	224	300	+ 38.9	148	23	110	19	22,015
Iowa	....	1	....	....	....	....	....	....	....	2	.....	....	....	2	....	....
Kansas	226	236	200	134	6	51	9	145,499	1,118	1,243	+ 14.9	832	35	308	68	1,160,430
Kentucky	41	34	25	10	1	11	3	707	177	171	.....	65	2	94	10	3,465
Louisiana	176	147	133	91	6	36	....	15,587	980	803	— 15.5	530	41	229	3	107,825
North Louisiana	51	52	56	37	5	14	....	2,525	339	299	— 9.2	182	31	84	2	19,156
South Louisiana	125	95	77	54	1	22	....	13,062	641	504	— 18.8	348	10	145	1	88,669
Michigan	120	74	70	29	3	36	2	23,771	734	457	— 35.8	183	30	242	2	48,938
Mississippi	20	20	16	15	1	....	....	9,299	114	102	— 7.3	80	2	20	....	51,779
Missouri	7	6	1	....	....	1	....	....	49	33	— 30.4	3	6	24	....	9
Montana	26	32	11	6	....	5	....	420	104	109	+ 8.3	66	28	15	....	10,858
Nebraska	1	4	4	2	....	2	....	2,052	1	45	+4590.0	17	....	27	1	6,460
New Mexico	60	27	32	26	....	6	....	4,753	418	200	— 50.6	153	9	36	2	36,482
New York	111	110	106	78	....	....	28	545	614	497	— 16.7	325	2	1	169	2,157
Ohio	66	174	140	36	55	42	7	694	488	927	+ 96.8	214	386	242	85	4,389
Oklahoma	205	228	175	103	17	37	18	42,191	1,267	1,190	— 2.9	635	91	325	139	226,179
[7]Pennsylvania	318	387	352	166	28	7	151	198	2,257	2,246	+ 2.7	959	1,023	194	70	1,324
South Dakota	....	....	....	....	....	....	....	....	1	....	.....	....	....	....	....	....
Tennessee	2	1	....	....	....	....	....	....	17	9	— 44.4	....	....	9	....	....
Texas	976	1,019	909	664	11	224	10	337,731	6,063	5,654	— 3.6	4,122	128	1,347	57	2,472,607
East Texas Field	22	52	43	41	....	2	....	52,590	165	360	+ 126.4	349	....	8	3	675,930
East Texas Border	1	1	3	1	....	2	....	10	9	16	+ 82.7	3	8	5	....	339
Rest of East Texas	21	68	36	19	3	13	1	6,937	141	290	+ 112.7	176	21	90	3	66,824
North Texas	189	255	231	150	....	80	1	48,418	1,302	1,374	+ 9.0	863	4	488	19	269,663
South Texas	276	208	215	143	4	67	1	44,571	1,596	1,319	— 14.6	870	43	392	14	326,756
Corpus Christi	148	114	105	76	1	27	1	33,431	772	695	— 6.8	522	17	146	7	260,273
Laredo	95	75	78	50	3	25	....	9,886	664	476	— 26.1	261	24	185	6	56,884
San Antonio	33	19	32	17	....	15	....	1,254	160	151	— 2.5	87	2	61	1	9,599
Texas Gulf Coast	110	93	67	51	....	16	....	9,759	780	438	— 41.9	333	17	88	....	82,062
Texas Panhandle	86	61	54	48	3	3	....	8,687	383	330	— 10.9	300	14	15	1	62,046
West Texas	192	232	203	180	1	15	7	162,614	1,244	1,188	— 1.2	1,086	4	81	17	904,165
West Central Texas	79	49	57	31	....	26	....	4,145	443	339	— 20.9	142	17	180	....	20,922
Utah	1	....	1	....	1	....	....	....	2	1	— 48.4	....	1	....	....	....
West Virginia	51	57	54	10	36	8	....	90	313	377	+ 24.5	49	254	64	10	427
Wyoming	17	16	12	7	....	1	4	4,701	84	68	— 16.3	46	2	8	12	27,621
Total United States	3,056	3,166	2,753	1,721	169	582	281	681,126	18,063	17,176	— 1.7	10,369	2,079	3,900	828	4,867,486

[1] Wells completed in 4 weeks, or 28 days, ended July 26, 1941. [2] Wells completed in 5 weeks, or 35 days, ended July 27, 1940. [3] Wells completed in 5 weeks, or 35 days, ended June 28, 1941. [4] Wells completed in 31 weeks, or 217 days, ended July 27, 1940. [5] Wells completed in 30 weeks, or 210 days, ended July 26, 1941. [6] California figures from the American Petroleum Institute, except for July, 1941. [7] Bradford, Pennsylvania, figures from the Producers Monthly, except for July, 1941.

...for only $2.50 per well

(Adds hundreds of dollars in extra wire line life.)

"Our Patterson-Ballagh Wire Line Guide has already drilled nine wells, and after switching the Rubber Liners around to get a new surface, they're good for at least six more wells."—reports a well-known Corpus Christi Drilling Contractor. This means protection to their wire line at a cost of approximately $2.50 per well.

Another large operator in Texas drilling a deep field south of Houston, reports that one of their Patterson-Ballagh Wire Line Guides has been in constant service for the past three years. During this time they have purchased but one set of refills—an average service cost of only $1.00 per month. The line spools perfectly and whip is cut down to almost nothing.

PATTERSON-BALLAGH WIRE-LINE GUIDES

ASSEMBLED, READY TO SHIP

. . . . *avoid whip in your line.*
. . . . *drill at faster speed.*
. . . . *perfect spooling at all times.*
. . . . *spark-proof; no fire hazard.*

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Los Angeles Houston New York City

HIGHLIGHTS IN THE WEEK'S NEWS

Allowables

Set Date for Texas Statewide Hearing

The Texas Railroad Commission has scheduled for August 18 its next Statewide proration hearing.

Some requests for allowable increases are anticipated because the Bureau of Mines, in its last estimate, raised the Texas demand some 37,000 barrels daily.

Texas Will Donate Output On August 17 to Britain

The Texas Railroad Commission will not change its date for giving oil to Britain, August 17, despite the protest of a group of Houston operators. (See below.) Jerry Sadler was the only commissioner in Austin when the petition arrived.

"I do not believe that there is need for conducting a further hearing on this matter," Sadler said in a prepared statement. "There is nothing coercive or compulsory about this plan. The program is one of patriotism, and the commission is in no way forcing oil companies and operators to donate oil to Great Britain.

"At a recent state-wide hearing the plan was fully discussed and at that time it was approved by a majority of those present.

"I wish to commend personally the fine spirit of cooperation which has been exhibited by independent oil operators throughout the state. They have signified their desire to donate their allowable production on August 17 nearly 100 percent.

"On the other hand, there are those who want to hide behind what they term technicalities. In so far as I am concerned there are no technicalities. If there are those who desire to camouflage their true desires by failing to cooperate let them announce their negation openly rather than hiding them behind legal terms which have been trumped up by their attorneys. August 17 is still the day designated when patriotic operators may produce the oil which they will donate to British defense. August 18 is still the day when warrants for such oil will be presented either to the president or his personal representative for transmittal to Great Britain, along with a scroll listing the names of those oil companies and operators who have cooperated in this patriotic defense plan."

An invitation has been issued the President of the United States and British officials to appear at the statewide proration hearing August 18 to receive certificates for the oil donated.

Wells in Texas ordinarily would be shut in on August 17, but if the oil is donated to Britain they will be permitted to produce up to one day's allowable. After producers have indicated their intention to donate the oil, pipe-line companies would be authorized to gather, receive and hold it on behalf of the President of the United States. Pipe lines would be permitted to deduct from "gift oil" sufficient quantities to absorb production and severance taxes and all gathering and transportation charges. They would then be allowed to sell the oil and either purchase oil of equivalent value for delivery to the President at any point designated by him, or to retain the original "gift oil" and deliver oil of equivalent monetary value to the President.

While the originator of the scheme, John F. Camp of San Antonio, had reported several operators had agreed to donate, the name of no donor other than himself had been made public. Just which companies or how many were planning to join in the donation program could not be ascertained.

Firms Ask Suspension of "Oil-for-Britain" Day

Some 30 companies and operators with offices in Houston August 7 asked the Texas Railroad Commission to reconsider its order setting August 17 aside for giving one day's oil production to Great Britain as a war aid.

They expressed full sympathy for Britain, but asserted "insurmountable difficulties of both practical and legal nature that require further consideration before such order should become operative" prompts urgent request for an early hearing before the commission on the matter.

The telegram was signed by The Texas Company, Humble Oil & Refining Company, Standard Oil Company of Kansas; Hamill & Smith; Ohio Oil Company; Winston Henry; Mills Bennett Production Company; Houston Oil Company; William H. Bonner; Salt Dome Oil Corporation; Gulfboard Oil Corporation; Cockburn Oil Corporation; H. C. Cockburn; McDannald Oil Company; Shell Oil Company; Navarro Oil Company; Republic Production Company; Jack Frazier; Hamman Exploration Company; Paul Benedum; Mound Oil Company; Fidelity Oil and Royalty Company; R. A. Welch; General Crude Oil Company; H. R. Cullen; Quintana Petroleum Company; Pure Oil Company; Rowan Drilling Company; Rowan & Nichols; Roy Lee; Woodley Petroleum Company; J. R. Parten; George S. Heyer; Palmer Bradley and D. C. Ellwood. H. F. Montgomery signed as attorney for others.

Possible Texas Compulsory Unitization Order

The first compulsory unitization order in history of Texas oil operations may be promulgated for the Chapel Hill field, if the commission acts favorably on a request of Shell Oil Company.

Last week the Shell Company outlined plans for a recycling project for the Paluxy formation in the field, which now has two wells, one of which is owned by Delta Drilling Company. This company has purchased right-of-way for a pipe line to supply gas from the well gas lift operations in the nearby East Texas field, and opposed Shell's proposal for this reason. Shell insisted that the recycling plant would not be practical unless all operators in the pool joined in, and expressed the opinion that the commission has the power to issue an order requiring all operators to join in such a program for the prevention of physical waste.

Discuss Revision of Texas Panhandle Allocation

Plans for revising the method of allocation in the Texas Panhandle area were discussed briefly at a hearing before the Texas Railroad Commission last week. However, the program was not developed fully.

Several plans were advanced to increase the acreage allocated to the well, and to take care of the water produced by giving a special allowable to wells producing large volumes of water. The Gulf advocated some system that would include a potential factor, but this was opposed by most of the other operators.

Stevenson Becomes Governor of Texas

Texas last week inaugurated a new Governor, Coke Stevenson, of Junction. He became governor of Texas after Lee O'Daniel, the new United States Senator, left the State for Washington.

Coke Stevenson

Stevenson was Lieutenant-Governor for the past two terms and has been an outstanding public official in Texas for many years, having served in both the House and Senate. He is a lawyer by profession and conservative by inclination. He is widely interested in ranching and is generally respected for his good judgment.

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Washington Roundup

[Continued from page 15]

oil, it was asserted, there has been in the past a tendency to permit final consumer prices to be unduly affected by "cut-throat" competition in the marketing branch of the industry, which has had the effect of depressing or raising crude prices regardless of cost or the economic conditions in the production branch.

Coordination Meeting

The 25 chairmen of as many regional and functional committees set up last month will meet August 11 with Coordinator Ickes and Deputy Coordinator Davies to map out a program for the coordination of industry activities for national defense.

It will be the first meeting of these officials, named by Ickes July 19, and much of the discussion likely will center around the expected shortage in District 1, the possibilities of its spread to other districts and the steps to be taken in that event.

A number of the regional groups already have been contacted by Deputy Davies and have been given some idea of their duties, while Davies has brought back to Washington first-hand information regarding supply and demand conditions and prospects in various parts of the country.

The meeting of chairmen was called, however, in order that the oil administration could lay the foundation for assuring uniform application throughout the country of any orders which it may be necessary to issue in the future.

Compact Renewal

Ratification of the renewal of the 11-state oil compact was recommended to Congress by President Roosevelt August 4, and the necessary measures were immediately introduced by Senator Elmer Thomas of Oklahoma and Representative William P. Cole, Jr., of Maryland.

Without hearings, the House Interstate and Foreign Commerce Committee made a favorable report on the bill August 6 and on August 7 Representative Cole called the measure up before the House, which passed it without debate.

Originally adopted in 1935, the compact has twice been renewed for two-year periods, and the present agreement is for a like term, to expire August 31, 1943.

Organization Notes

Jack W. Steele, chairman of Federal Tender Board No. 1, has been designated by Coordinator Ickes as acting director of the Petroleum Conservation Division during the service of Director George W. Holland as special assistant to the coordinator. Steele will fill the two posts simultaneously, the activities of both agencies being directed to the administration of the Connally "Hot Oil" Act.

Grady Vaughn, independent operator and drilling contractor of Dallas, has been named production director of the Houston office. His assistant will be E. O. Buck, consulting engineer of Houston.

Secretary of State Hull announced the appointment of Max W. Thornburg, former official of Bahrien Petroleum Company, as a special assistant to act as consultant to the State Department on international oil matters.

A. V. Bourque of Tulsa, executive secretary of the recently formed Tank Car Service Committee, has been appointed tank car consultant to Ralph Budd, transportation commissioner of the Office for Emergency Management. Bourque, who was allocator for the Mid-Continent fields under the NRA, has been engaged on oil trade journals and with associations of petroleum refineries for a number of years.

Expansion of the field service of the priorities division of the OPM brought into the picture, as district manager of a new office to be opened at Los Angeles, G. Howard Hutchins, president of the Filtrol Company of California and one-time Federal receiver for the Alco Oil Tool Company.

So far, 16 field offices have been opened, each staffed by local men who have a thorough knowledge of conditions and manufacturing operations in their respective areas, to aid business men and manufacturers who need information or advice in connection with the priorities system.

H. A. Gilbert, director of transportation for the oil coordinator, was designated by Deputy Coordinator Davies August 6 to represent the oil administrator's office as liaison with the Maritime Commission on problems relating to ocean transportation of oil.

Japan Embargo

Administration officials last week were awaiting further moves by Japan to counter the ban on silk importations and oil exportations laid down by President Roosevelt, as a result of which much oil destined for shipment to the Far East remained in storage and on docks on the Pacific Coast.

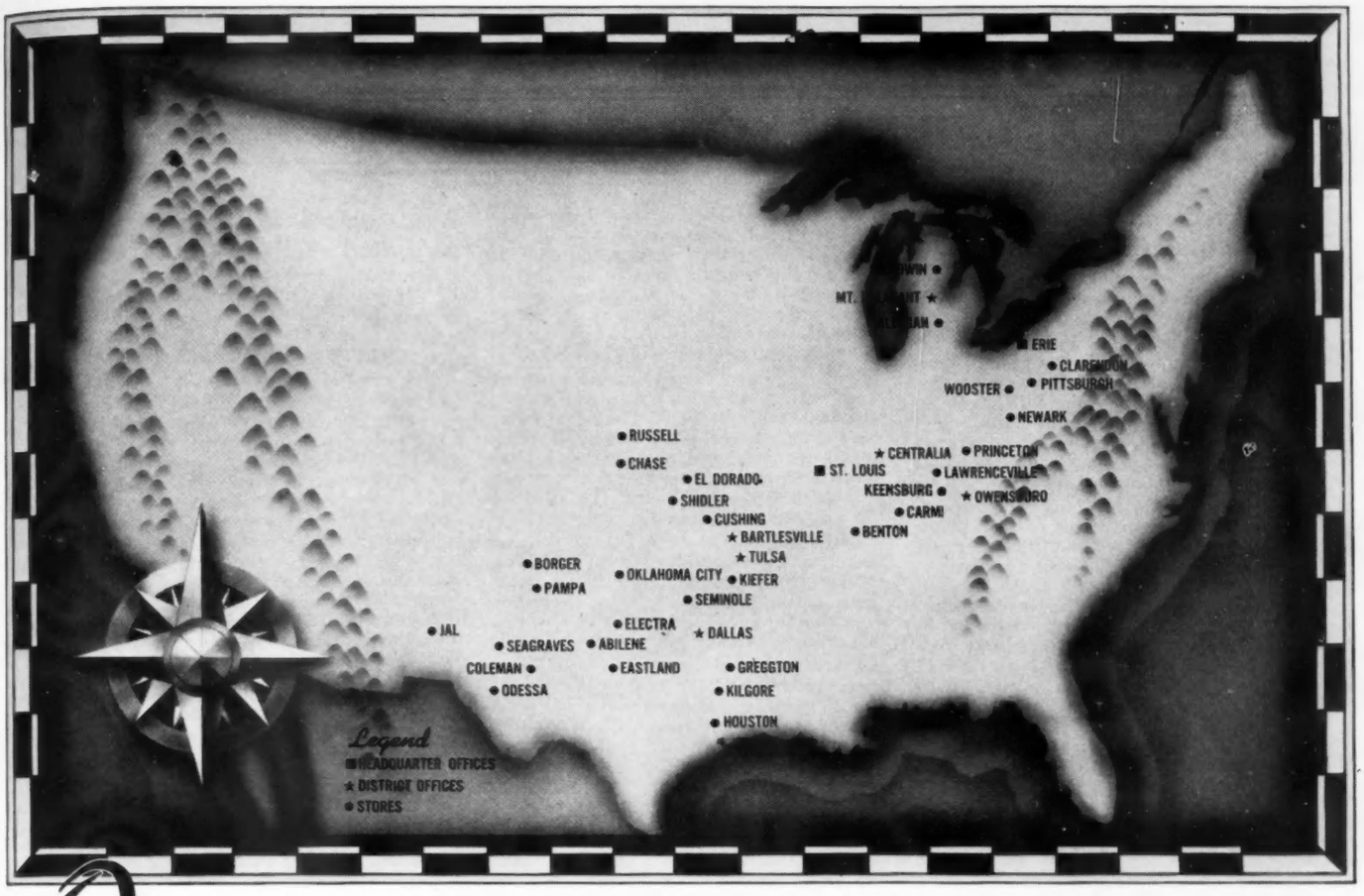
Issued as evidence of American dissatisfaction over Japanese aggression in Indo-China, the President's order named no specific countries but was so worded that Japan could be the only important nation affected.

It directed the Administrator of Export Control to initiate further regulation in respect to the export of petroleum products, and explained that the action would have two immediate effects.

"It will prohibit the exportation of motor fuels and oils suitable for use in aircraft and of certain raw stocks from which such products are derived to destinations other than the Western Hemisphere, the British Empire and the unoccupied territories of other countries engaged in resisting aggression," it said. "It will also limit the exportation of other petroleum products, except to the destinations referred to above, to usual or prewar quantities and provide for the pro-rata issuance of licenses on that basis."

The State Department immediately revoked all outstanding petroleum licenses for shipments to Japan.

While the Administration's action was interpreted in some quarters as putting Japan on a "quota" basis for oil, it was authoritatively said to go much further since Japan's purchases in recent years, even "pre-war" have been predominantly aimed at building up stocks of gasoline with which to carry on her undeclared war in China. So far, however, there has been no intimation from Government sources of just how quota control would be applied.



Organized for FAST Responsible Service

Old in experience but young in spirit, the Jarecki organization has been painstakingly built, through years of development, to provide the speed that the oil industry requires without sacrifice of the reliability it insists upon.

Located at all important places in the oil country are Jarecki field stores, with their carefully maintained stocks of top-quality supplies and equipment. Supervising the activities of the stores are strategically situated and ably staffed district offices, with general offices in St. Louis. And back of the entire oil-country set-up is the Home Office and Factory at Erie with its 89-year record of integrity and more than a half million feet of floor space equipped with every facility that contributes to sound design and honest manufacture.

Every product handled by Jarecki has been carefully chosen for its ability to measure up to the Jarecki standard of extra value through an extra measure of dependable service. Every facility is keyed to the goal of supplying what you want when you need it.

"Get it from Jarecki" is a good habit to acquire and a profitable one to follow!

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OF THESE PRODUCTS

TUBULAR GOODS — Drill Pipe, Casing, Tubing, Line Pipe, Standard Black and Galvanized Pipe

HEWITT Rotary Hose, Packing, Belting, and other Rubber Goods

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Markets Remain Strong But Prices Generally Unchanged

As in the preceding weeks, prices of petroleum products last week were generally unchanged.

However, in several instances, quotations were higher, as in the case of neutral oils in the Mid-Continent, this strength being in line with that in Western Pennsylvania lubricants.

Bright stocks worked a little higher in Western Pennsylvania, whereas some refiners were quoting neutral oils a cent a gallon lower, in response to the placing of a ceiling on prices of that product in the district by the Office of Price Administration and Civilian Supply.

Range oil was quoted ⅛ to ¼ cent a gallon higher in the Middle West, but generally, there were no changes in quotations on kerosine and light fuel oils, while heavy, industrial grade fuel oils also were unchanged.

At Los Angeles, diesel oil was down 5 to 10 cents a barrel, to a range of $1 to $1.15, ships' bunkers, possibly in reflection of loss of Japanese business.

Although prices of gasoline were generally unchanged, markets continued strong, as many Mid-Continent refiners reported difficulty in meeting demand. The numerous inquiries in the market reflected needs of refiners for adidtional supplies, above their own production, as well as the requirements of marketers. Some plants were operating in excess of rated capacity and were using extra supplies of crude, as they experienced the most active period in their history.

On the East Coast, gasoline prices were advanced in some instances by suppliers and retailers. Certain grades were marked up in the wholesale market at Norfolk, and in New York City some service stations increased prices ½ cent a gallon, although the advance did not become general.

Although it was early in the season, there was considerable interest last week in heating oils, and shipments were relatively active, while there were numerous inquiries for No. 1 grade, to be shipped beginning September 1.

Prices of gasoline on the Gulf Coast were under consideration at Washington by representatives of the OPACS and of coastal refiners, with the latter attempting to show by cost data that the ceiling of 6 cents a gallon on 80-octane grade, suggested by OPACS, was below cost of production. Meanwhile, prices on the Gulf Coast remained generally unchanged.

Trends of Operations and Changes in Stocks

Figures are from American Petroleum Institute weekly reports, except those on crude stocks, which are from Bureau of Mines weekly reports

WEEK ENDED	Crude Oil Production (Barrels Daily)	Crude Runs to Stills (Barrels Daily)	Crude Oil Stocks (Barrels)	Gasoline Stocks (Barrels)	FUEL OIL STOCKS	
					Gas Oil & Dist. Fuels	Residual Fuel Oil
1938:						
November 12	3,243,250	3,180,000	273,394,000	[6]67,551,000	34,175,000	120,491,000
December 10	3,245,100	3,150,000	[2]269,509,000	68,687,000	32,068,000	118,711,000
1939:						
April 22	3,526,700	3,280,000	277,156,000	[2]87,769,000	21,085,000	105,035,000
April 29	3,568,200	3,405,000	278,440,000	86,794,000	[7]25,844,000	[7]108,409,000
May 6	3,580,900	3,275,000	[2]278,607,000	86,216,000	26,167,000	108,597,000
August 5	[1]3,909,400	3,445,000	268,982,000	76,431,000	35,601,000	114,512,000
August 26	[8]1,690,800	3,475,000	246,982,000	73,475,000	37,722,000	116,237,000
October 7	3,435,850	3,505,000	231,564,000	[5]71,152,000	38,549,000	114,397,000
October 21	3,771,550	[2]3,650,000	[3]229,127,000	72,122,000	39,358,000	115,060,000
1940:						
January 27	3,611,600	3,470,000	237,339,600	87,914,000	27,407,000	103,015,000
February 24	3,732,100	3,490,000	240,836,000	96,719,000	25,390,000	103,419,000
March 30	3,841,250	3,585,000	250,561,000	101,370,000	23,778,000	105,081,000
April 20	3,858,550	3,535,000	254,881,000	[1]102,817,000	24,779,000	103,323,000
April 27	3,845,250	3,555,000	256,670,000	102,452,000	24,997,000	102,552,000
May 25	3,835,650	3,580,000	259,330,000	100,297,000	28,356,000	104,015,000
June 22	3,846,450	[2]3,690,000	260,891,000	97,276,000	32,751,000	104,683,000
June 29	3,639,550	3,625,000	262,059,000	95,142,000	33,590,000	104,486,000
July 27	3,690,400	3,555,000	262,579,000	90,173,000	38,981,000	105,924,000
August 31	3,501,350	3,575,000	265,865,000	85,393,000	44,766,000	108,774,000
September 28	3,799,950	3,600,000	263,609,000	82,273,000	47,986,000	108,450,000
October 26	3,640,300	3,565,000	262,746,000	80,891,000	[4]48,893,000	108,475,000
November 9	3,584,200	3,510,000	261,631,000	[6]79,847,000	48,408,000	107,687,000
November 30	3,335,050	3,510,000	262,679,000	80,284,000	46,212,000	106,618,000
December 28	3,385,500	3,585,000	261,552,000	83,274,000	42,266,000	102,620,000
1941:						
January 25	3,599,100	3,625,000	260,093,000	88,762,000	39,039,000	100,297,000
February 22	3,629,650	3,590,000	261,783,000	95,812,000	34,381,000	98,631,000
March 1	3,632,250	3,585,000	263,176,000	96,917,000	33,725,000	97,510,000
March 29	3,746,550	3,625,000	266,187,000	[9]99,727,000	29,949,000	96,152,000
April 26	3,726,850	3,675,000	266,149,000	96,647,000	29,543,000	94,732,000
May 31	3,786,100	3,699,000	262,356,000	93,845,000	33,524,000	92,757,000
June 7	3,816,700	3,880,000	260,956,000	92,522,000	34,305,000	93,384,000
June 14	3,822,750	3,755,000	260,464,000	92,478,000	35,060,000	93,182,000
June 21	3,857,600	3,845,000	259,142,000	91,916,000	35,736,000	93,281,000
June 28	3,847,250	3,930,000	259,399,000	91,461,000	35,732,000	92,896,000
July 5	3,658,200	3,745,000	258,070,000	90,218,000	36,925,000	92,635,000
July 12	3,870,750	[1]4,090,000	255,567,000	89,561,000	37,812,000	92,699,000
July 19	3,676,050	3,805,000	254,048,000	87,920,000	38,732,000	93,091,000
July 26	3,869,950	3,920,000	252,728,000	86,945,000	40,197,000	93,855,000
August 2, 1941	3,695,250	3,845,000	.....	86,779,000	41,433,000	94,800,000
August 2, 1940	3,493,550	[8]3,485,000	[4]262,579,000	88,892,000	39,594,000	106,265,000
Change in past year.	+5.8%	+10.3%	—3.7%	—2.4%	+4.6%	—10.8%

[1] All time peak. [2] Peak for year. [3] Lowest since April, 1922. [4] Stocks, July 27, 1940.
[5] Lowest since October, 1922, due to shut down of six Mid-Continent states. [6] Lowest for year
[7] Prior to April 29, 1939, data did not include stocks at terminals, in transit, etc., except in California
[8] July-August, 1940, daily average.

East Coast Still Adequately Supplied with Oil Products

Gratifying results are being achieved by the industry in meeting the problem of supplying heavy demand for petroleum products after having given up 20 percent of its vitally needed tank ships.

For the country as a whole, stocks of gasoline are being drawn upon less than normally for the heavy consuming season; and east of California, inventories are less than a million barrels under the level of a year ago, with stocks on the shortage-threatened East Coast only 783,000 barrels smaller than at this time last year.

During the week ended August 2, the East Coast requirements of gasoline were almost completely fulfilled with the output of refineries of the district and the shipments received from the Gulf Coast, as it was found necessary to withdraw only 117,000 barrels from storage.

The East Coast stocks of gasoline were 281,000 barrels greater on August 2 than on May 25, at which time the industry began to adjust itself to the diversion of 50 tankers to the British. In the corresponding period of last year, the East Coast storage showed a net decrease of 1,397,000 barrels.

The contra-seasonal change in East Coast stocks has been achieved through above-normal movement of gasoline from the Gulf Coast eastward, as evidenced by the fact that Coastal Texas stocks were drawn upon to the extent of 2,568,000 barrels between May 25 and August 2, this year, in comparison with a reduction of only 2,007,000 barrels in the corresponding period last year. The present stocks of 12,062,000 barrels on the Texas Gulf Coast are a million barrels under those held a year ago.

Total stocks of gasoline in the United States now amount to 86,779,000 barrels, compared with 88,892,000 a year ago, a decrease of 2.4 percent, largely in California and on the Gulf and East Coast, as previously indicated.

Although total gasoline stocks are 2,000,000 barrels smaller than a year ago, those of ordinary gasoline are down about 4,000,000 barrels, while inventories of aviation gasoline have been increased a little over 2,000,000 barrels, in response to enlarged demand.

A fairly satisfactory over-all situation with regard to heating oil stocks was maintained in the week ended August 2, as national inventories of gas oil and distillate fuel were increased from 40,197,000 to 41,433,000 barrels. The latter amount was 4.6 percent larger than the 39,594,000-barrel inventory on hand at the beginning of August last year.

However, of the 2,000,000-barrel increase in light fuel oil stocks since a year ago, 1,500,000 barrels has been in California, while there has been a 750,000-barrel increase on the Texas Gulf Coast, which is a supplying rather than consuming district.

The East Coast, largest consuming region, has on hand a million barrels less than at this time last year (13,069,000 barrels August 2 against 13,982,000 a year previously). It is true that no difficulty whatever was experienced last winter in meeting consumer demand in

the area, and consequently, present stocks do not appear seriously low. However, many new oil burners have been installed since a year ago, and it is quite possible that the coming winter may be colder than last winter. Therefore, larger stocks in the district certainly would be desirable.

In the week ended August 2, there was a 680,000-barrel addition to the gas oil and distillate stocks on the East Coast, which was a little larger than the build-up in the corresponding week last year. And the addition was made, apparently, through at least a normal movement from the Gulf Coast, as stocks in the latter area were reduced 181,000 barrels during the week, compared with an increase of 216,000 barrels in the like week last year.

However, during the past two months, the Gulf-Atlantic shipments have been sub-normal, in reflection of the above-normal use of tanker space for moving more urgently needed gasoline. Between May 25 and August 2 this year, East Coast stocks of gas oil and distillate were increased only approximately 4,000,000 barrels, in contrast with a build-up of 6,764,000 barrels in the like period last year.

It has been contended, nevertheless, that the industry hopes to take care of the seasonal demand for heating oil in the East when that demand actually arrives, just as it has so far taken care of the seasonal requirements for gasoline; although difficulties will be increased by the contemplated diversion of additional tankers to Britain.

Some improvement was achieved in

Wholesale Prices of Refined Products in Principal Markets

	Range Last Week (Cents a gal.)		Changes from Week Before	
REFINED GASOLINE				
Oklahoma Refineries:				
60 Octane and Under	5¼	5⅝	...	...
63-66 Octane	5⅝	6	...	...
72-74 Octane	6	6⅜	...	...
80-82 Octane, Ethyl	6½	7¼	...	...
Mid-Western Tank Car:				
60 Octane and Under	5⅛	5⅝	...	...
63-66 Octane	5⅝	6	...	...
72-74 Octane	6	6⅜	...	...
80-82 Octane, Ethyl	7⅜	7⅜	...	...
New York Harbor:				
68-70 Octane	8	8¼	...	...
72-74 Octane	8	8½	...	...
Min. 80 Octane, '39 Research	8½	9	...	...
Gulf Coast:				
60 Octane unleaded	5⅛	5⅝	...	...
65 Octane unleaded	5½	5⅞	...	...
68 Octane unleaded	6	6	...	...
70 Octane unleaded	6	6¼	...	...
72-74 Octane leaded	6	6¼	...	...
Min. 80 Octane, '39 Research	6¼	6½	...	...
NATURAL GASOLINE				
Grade 26-70:				
F.O.B. Group 3	3⅝	3¾	...	...
F.O.B. Breckenr'ge, Tex.	3¼	3¼	...	—¼
KEROSENE				
Oklahoma Refineries:				
41-43 water white	4⅜	4¾	...	...
42-44 water white	4½	4⅞	...	...
Mid-Western Tank Car:				
41-43 water white	4⅜	4¾	...	...
42-44 water white	4½	4⅞	...	...
New York Harbor	5¼	5½	...	...
RANGE OIL				
At Oklahoma Refineries.	4	4⅜	...	...
In Mid-Western Market Group 3, basis	4	4¼	...	+¼
LIGHT FUEL OILS				
Oklahoma Refineries:				
No. 1 straw	3½	4¼	...	...
No. 3	3⅜	3⅝	...	...
Mid-Western Tank Car:				
No. 1 white	3¾	4⅛	...	...
No. 3	3¼	3½	...	...
New York Harbor:				
No. 1	5¼	5½	...	...
No. 3	4⅞	4⅞	...	...

	Range Last Week (Per Bbl.)		Changes from Week Before	
HEAVY FUELS				
Oklahoma Refineries:				
No. 6	$0.80	$0.85	...	...
Mid-Western Tank Car:				
No. 5	.85	.85	...	...
No. 6	.85	.87½	...	...
New York Harbor:				
No. 5	1.65	1.75	...	...
No. 6	1.35	1.35	...	...
BUNKER C FUEL OIL (Per barrel, ships' bunkers)				
Gulf Coast	$ .85	$ .95	...	...
New York Harbor	1.35	1.35	...	...
DIESEL OIL (Per barrel, ships' bunkers)				
Gulf Coast	$1.55	$1.55	...	...
New York Harbor	2.00	2.00	...	...
Los Angeles Basin 27 gravity	1.00	1.15	—.05	—.11
LUBRICATING OIL (Cents a gal.)				
Oklahoma Refineries:				
Bright Stock, 150-160 viscosity at 210°, 10-25 pour test	20½	21½	...	...
Neutral oil pale No. 3 Color, 150 viscosity at 100°, 0-10 pour test	12½	12¾	+¾	+¼
Western Pennsylvania:				
Bright Stock, 145-155 viscosity at 210°, 25 pour test	25	27	...	+1
Neutral Oil No. 3 Color, 150 viscosity at 70°, 25 pour test	31	35	...	—1

Production Up Sharply as Texas Produces Extra Day

Estimates Compiled by The OIL WEEKLY

DISTRICT OR STATE	Bureau of Mines Estimate of Daily Demand (Aug.)	State Allowable (Barrels Daily in Aug.)	BARRELS DAILY FOR WEEK ENDED Aug. 2	Aug. 9
TEXAS—				
Texas Panhandle	.....	.....	81,300	80,650
North Texas	.....	.....	99,700	100,650
West Central Texas	.....	.....	30,100	29,900
West Texas	.....	.....	220,550	274,050
East Central Texas	.....	.....	79,650	82,950
East Texas Field	.....	.....	299,900	370,600
South Texas	.....	.....	179,900	219,550
Texas Gulf Coast	.....	.....	243,800	283,950
Total Texas	1,361,600	1,355,502§	1,234,900	1,442,300
CALIFORNIA—				
Long Beach	.....	.....	38,700	38,800
Midway-Sunset	.....	.....	46,900	55,400
Kettleman Hills	.....	.....	40,500	36,300
Wilmington	.....	.....	83,800	85,400
Others	.....	.....	428,300	428,900
Total California	641,000	610,000*	638,200	644,800
OKLAHOMA—				
Oklahoma City	.....	.....	88,250	86,550
Seminole Area	.....	.....	108,200	107,250
Others	.....	.....	220,800	219,675
Total Oklahoma	492,400	415,000	417,250	413,475
ILLINOIS—				
Salem	.....	.....	80,500	81,200
Louden	.....	.....	60,200	60,500
Centralia	.....	.....	9,600	9,500
Other New Pools	.....	.....	173,800	190,300
Old Pools	.....	.....	10,700	12,800
Total Illinois	390,100	.....	334,800	354,300

DISTRICT OR STATE	Bureau of Mines Estimate of Daily Demand (Aug.)	State Allowable (Barrels Daily in Aug.)	BARRELS DAILY FOR WEEK ENDED Aug. 2	Aug. 9
LOUISIANA—				
North Louisiana	.....	.....	77,800	79,100
South Louisiana	.....	.....	240,900	242,500
Total Louisiana	324,500	325,081	318,700	321,600
KANSAS	240,800	242,800	235,500	225,250
NEW MEXICO	112,900	112,900	110,400	110,400
EASTERN STATES—				
Pennsylvania Grade	74,500	.....	72,200	75,400
Others, Eastern	24,400	.....	18,600	18,500
Total Eastern States	98,900	.....	90,800	93,900
MOUNTAIN STATES—				
Wyoming	85,000	.....	84,100	82,900
Montana	20,000	.....	19,400	19,900
Colorado	4,400	.....	3,750	3,900
Total Mountain States	109,400	.....	105,350	106,700
MICHIGAN	36,000	40,000†	40,400	41,000
INDIANA	22,100	.....	21,000	20,500
ARKANSAS	80,700	74,428	73,100	73,650
MISSISSIPPI	25,200	.....	46,400	45,500
NEBRASKA	4,400	.....	5,200	5,150
‡Total 8 Prorated States	3,289,900	3,175,711	3,068,450	3,272,475
Total United States	3,940,000	.....	3,672,000	3,898,525

* Recommendation of Conservation Committee of California Oil Producers.
† Estimate of actual production under prescribed regulations, which do not fix a definite state total allowable.
‡ Texas, California, Oklahoma, Louisiana, Kansas, New Mexico, Arkansas, Michigan.
§ Texas Railroad Commission's estimate of actual net daily production, allowing for usual under production of 3½ percent under net allowable, which at the beginning of August is calculated at 1,404,665 barrels daily. However, allowable normally increases as new wells are completed. Under August order, most Texas fields were ordered shut down August 2, 3, 9, 10, 16, 17, 23, 24, 30 and 31. Panhandle was ordered shut down August 3, 10, 17, 24 and 31.

the week ended August 2 in the heavy fuel oil situation, a million barrels having been added to storage on the East Coast, where urgently needed, while changes in other districts balanced against each other.

On the East Coast, the residual fuel oil stocks were increased during the week from 8,972,000 to 9,989,000 barrels. The addition reflected large movement from the Gulf Coast, where stocks were reduced 554,000 barrels. Other important changes of the week included additions of 210,000 barrels to storage on the Louisiana Gulf Coast and 291,000 barrels in California.

Total stocks of residual fuel oil in the United States August 2 amounted to 94,800,000 barrels, a quantity 11,465,000 barrels (10.8 per cent) smaller than that on hand a year before. However, stocks in California are 12,342,000 barrels smaller than a year ago, and those east of California are about a million barrels larger. Those on the East Coast are within 304,000 barrels of the level a year ago (9,989,000 barrels August 2, against 10,293 a year before), while increases are indicated for the Middle West and the Gulf Coast, with stocks in the Mid-Continent practically unchanged.

Crude runs to stills were reduced 75,000 barrels to 3,845,000 daily in the week ended August 2, but were 10 percent larger than in the corresponding week last year, and plants of the country were operating at 89.5 percent of rated capacity. Refineries on the East Coast apparently had some difficulty in obtaining adequate crude, as they operated at only 88.1 percent of capacity. Plants of the Middle West, the Mid-Continent, the Gulf Coast, the Appalachian region, and North Louisiana-Arkansas utilized 95 percent or more of their rated capacity. Those in California operated at 76.1 percent of capacity, although that state's capacity possibly is somewhat over-rated.

In reflection of heavy runs to stills in July, in the face of relatively strict production allowables and inability of Oklahoma and Illinois to meet demand from production, crude stocks in the United States were drawn upon during the month to the extent of about 6,000,000 barrels, the storage having been reduced from about 259,000,000 barrels at the beginning of July to 252,728,000 barrels as of July 26.

Between June 28 and July 26, stocks of Oklahoma-origin crude were reduced about 1,700,000 barrels, while those of Illinois-Indiana crude were lowered almost exactly the same amount. Stored crudes of Texas origin meanwhile were used in the amount of 3,000,000 barrels, including 1,500,000 barrels of East Texas oils, 1,000,000 barrels of Texas Gulf Coast crudes, and 500,000 barrels of other Texas grades. About 200,000 barrels of Pennsylvania grade crude came out of storage in the same period, and there was an accumulation of 500,000 barrels of Mississippi crude. Fluctuations in other districts were only nominal.

Osage Auction

Auction of Osage Indian oil leases will be held at Pawhuska, Oklahoma, at 1:30 p.m., September 3.

The sale will include 92 quarter sections on the east and west sides of Osage County, totaling 14,625 acres. Written bids may also be submitted prior to September 3.

Pipe Lines

Start Work on Line to Serve Abell Field in West Texas

The Texas New Mexico Pipe Line Company is buying right-of-way for a 20-mile 6-inch oil line from Crane station to the Abell 28-well pool, Pecos County, with a 4-inch lateral to the Conry-Davis 2-well pool. The Abell outlet was authorized last May, but construction was held up for lack of pipe, which will be procured by salvaging an idle unit in Lea County, New Mexico. Crude gathered in the Abell and Conry-Davis areas will be for the account of Sinclair Prairie Oil Marketing Company. Two 80,000-barrel tanks will be moved from Wink to Crane station to segregate the Abell high-gravity crude. The line will have a capacity of 6000 barrels daily, and is scheduled to be in service by September 15.

The Texas New Mexico Pipe Line Company is installing a gathering system in the Slaughter field, involving an aggregate of 15 miles of pipe, to connect with leases owned by The Texas Company and Tide Water Associated Oil Company. Former's gravity trunk line from Slaughter to Midland is dependent upon South Plains Pipe Line Company's facilities for gathering oil that is consigned to Atlantic Refining Company at Midland.

Texas Plans 100-Mile 8-Inch Oil Line in Oklahoma

The Texas Pipe Line Company has announced plans for construction of a 100-mile 8-inch oil line from Apache pool, Caddo County, Oklahoma, thru the Cement field and to its main line at Seminole. Line capacity will be 30,000 barrels daily.

This outlet has long been sought by Cement operators who are running approximately 6500 barrels but who could readily step-up production to 12,000 barrels per day. There is a ready market. Anderson-Prichard Oil Corporation's refinery at Cyril processes Cement crude, around 34-35 gravity.

Cement was granted a 2500-barrel increase in allowable for August due to Rock Island Refining Company purchasing addition oil. This will be taken by Magnolia Pipe Line Company to its Beaver Station, Duncan pool, and then sent to Wood River, Illinois, via Sinclair Prairie Pipe Line Company and thence to the Rock Island refinery at Indianapolis, Indiana.

Construction will begin as soon as pipe is available. To date no oil has been placed in tanks at Apache pool, a new discovery by The Texas Company.

Texas Empire Plans Two Oil Lines in Kansas

The Texas Empire Pipe Line Company will begin work immediately on its 6-inch oil line from Ray pool, Phillips County, Kansas, to the Bemis pool, Ellis County, a distance of 40 miles. Pipe was salvaged from the Seminole area. Capacity is estimated at 14,000 barrels daily.

The company also will construct a 35-mile, 10-inch line from Chase to Susank in Russell County. Delivery on pipe has held up construction. This outlet is vital to Russell County's increased production.

Cities Service to Build Line Out of Cement Gas Field

Cities Service Gas Company will construct a 55-mile 16-inch gas pipe line from the west end of Cement field, Caddo County, to the Oklahoma City district. Capacity of line will be 90,000,000 cubic feet daily. Cost of the line is estimated at $750,000. It will cross the Canadian River near Union City and at Oklahoma City will tie into the Cities Service system which extends north into Kansas.

Oklahoma Natural Gas Company and Consolidated Gas Companies at present are serving Cement field but buying only in the east and central sections of the area.

Development of this area has been delayed for the past three years due to low allowables for oil production and discovery of large gas wells. Ray Stephens, Inc., has one producer with a potential of 375,000,000 cubic feet daily while Magnolia Petroleum Company rates one at 310,000,000 cubic feet.

Under terms of contract. Ray Stephens, Inc., will supply sufficient gas to amortize the line in a few years. Also contemplated is construction of a gathering system in the field as well as one dehydration plant.

Pipe Line Rates to Gulf Coast Reduced

Downward revision of pipe line tariffs on crude shipments from East Texas and New Mexico-West Texas districts to the Gulf Coast have been scheduled by the majority of the carriers. Shell Pipe Line Corporation took the initiative in the rate reduction, having lowered its tariff from East Texas field to Houston 7½ cents per barrel effective August 15, while the rate from the Permian Basin will be cut to 18 cents per barrel. The largest common carrier in the latter district has made application to lower its rate to 20 cents per barrel.

Indian Territory Merged With Cities Service

Under a liquidation plan, the properties of Indian Territory Illuminating Oil Company were taken over August 1 by Cities Service Oil Company. H. R. Straight, president, Cities Service Oil Company, issued a formal statement following a board of directors meeting stating Cities Service was offering employment to I. T. I. O. employes in the maintenance and operation of the properties.

A number of I. T. I. O. officials were taken into the Cities Service organization. R. L. Morton, vice president of I. T. I. O. was elected a director and vice president of Cities Service Oil Company. Other action of the board of directors included the election of A. W. Ambrose, a director and vice president of Cities Service, to executive vice president; L. A. Lynd, a director and assistant treasurer, elected treasurer; T. P. Steeper was named a vice president; M. A. Wilson, Cities Service, and E. B. Emenhiser, I. T. I. O., were named assistant secretaries.

U. S. FIELD OPERATIONS

Kansas

New Pools Are Opened in Rooks and Russell Counties

Erway pool, new discovery for Rooks County, two Russell County wildcats completed for new areas, water ruins three prospective discoveries in Barton, Ellis and Russell counties, Kearny County wildcat dry in Arbuckle lime, to test Cherokee section, Norton and Cowley County wildcats indicate productive possibilities, Lansing lime new horizon Rick pool (Arbuckle), Barton County.

Rooks County: Cities Service Oil Co.'s Ervay 1, SEc 2-10-16w, 1 mi east Kruse pool, Topeka 2801 ft, Lansing 3108 ft, Conglomerate 3428 ft, Arbuckle 3485 ft, dry, total depth 3495 ft, cemented 4-in 3205 ft, perforated and acidized Kansas City-Lansing lime, filled 2500 ft oil, established temporary potential 58 barrels daily.

Norton County: Helmerich & Payne and Phillips Petroleum Co.'s Wyatt 1, C E½ NE NE 20-1-23w, 8 mi northwest Norton, Kansas City 3325 ft, cemented 7-in 3618 ft, Conglomerate, checked too low for deepening to Arbuckle, perforating live oil show 3385-90 ft.

Cowley County: Deep Rock Oil Corp.'s Daniels 1, SWc NE 10-30-3e, 2½ mi northeast Udall pool, top Arbuckle lime 2933 ft, total depth 2968 ft, 5½-in casing 2934 ft, drilling plugs, offsets Mississippi lime failure, checked structurally high (—1101 ft on Lansing), Mississippi section absent, electric log indicates producer.

Barton County: Helmerich & Payne et al's Unruh 1, C E½ NE NW 16-20-15w, 4 mi northeast Pawnee Rock pool, deepened from 3808 to 3872 ft, picked up water zone in Siliceous 3865-66 ft, to plug off bottom-water and probably abandon, top Arbuckle 3720 ft, previously flowed 1 barrel crude per hour.

Ellis County: Darby Petroleum Corp.'s Dreiling 1, SEc NW 28-13-17w, north Toulon pool, fished out cement retainer, bailed 1 bbl water and 1½ gal oil per hour, uncommercial, to abandon 3534 ft.

Russell County: Gustason pool opened by Central Petroleum Co. et al's Gustason 1, C S½ SE NW 14-15-12w, Arbuckle 3244-57 ft, temporary potential 163 bbls daily, to tube and acidize, located southeast Greenvale area. Same operators Steinlie 1, C N½ NW NE 29-15-12w, 1¼ miles west Dubuque pool, cracked plg, filled 3000 ft oil, taking potential. Ruso Drlg. Co. et al's Phillips 1, SE NE NE 6-14-13w, east of Russell pool, Lansing 3029 ft, Sooy 3304 ft, Arbuckle 3326 ft, total depth 3334 ft, bailed 1 bbl oil per hour, jetted 500 gals acid, treated 3000 gals acid, water, to abandon.

Rick Pool: Shell Oil Co.'s Rader 1, NEc 11-19-11w, perforated Lansing 60 holes 3106-20 ft, old total depth 3392 ft Arbuckle, 3000 gals acid, completed 180 bbls daily, opens new horizon, plug back depth 3242 ft.

Kearny County: Stanolind's Patterson 1, C E½ SE SE 23-22-38w, Arbuckle 5655-90 ft, dry, plugging back to perforate Cherokee 4740-60 ft, previously showed 1885 ft 34-gravity oil on drill-stem test, opened 20 minutes, at this level.

Oklahoma

New Pools Indicated in Creek and Osage Counties

New pools for Creek and Osage counties, initial Wilcox sand production for West Hotulke pool, Pottawatomie County, West Earlsboro pool extended 1¼ miles southward, The Texas Company starts Grant County wildcat on 2600-acre seismograph block, prospective discovery 1 mile north Wewoka, Seminole County.

Creek Strike: Ross Oil Co., W. C. Kite and others' Starr 1, SE SEc SW 7-15n-8e, 1 mile west Depew pool, filled 3000 ft oil, Wilcox 3766-3800 ft, 7-in casing 3766 ft, testing.

West Hotulke: Atlantic Refining Co.'s Higbee 1, SE NW SW 22-9n-4e, extended production 2 locations east and 1 north together with opening new horizon, top Viola 4414 ft, First Wilcox 4532 ft, salt water, Second Wilcox 4629 ft, total depth 4634 ft, swabbed 3 bbls hourly, cleaning out to deepen. Smith Brothers Drlg. Co.'s Billington 1, SEc 22-9n-4e, 1 mile east production, topped First Wilcox 4433 ft, cored 4435-45 ft, recovered 10 ft dolomitic sand, good staining, set casing to test, previously logged saturation in Hunton 4167 ft, topped Viola 4322 ft.

North Wewoka: Hall-Jordan Oil Co. and Herman Hurst's Jennings 1, NW SE SE 8-8n-8e, basal Calvin 1555 ft, Senora lime 1905 ft, Brown lime 2845 ft, Booch 2990 ft, Gilcrease 3132 ft, show oil, Cromwell 3265 ft, water, saturation Hunton lime 4057-67 ft, cored saturation First Wilcox 4280-85 ft, electric log favorable both horizons, cemented casing, testing Wilcox.

Osage County: Joseph Swartz et al's Osage 3-A, SWc NE 16-23n-9e, 1½ miles south Band Wheel pool, Oswego 1798-2073 ft, Bartlesville 2156-70 ft, 6 bbls daily, to shoot for increased production.

Illinois Basin

Pool Opened in Hamilton; Wildcat Near Completion

Hamilton County pool opener completed and Aux Vases discovery in same area neared completion; Franklin wildcat due for completion.

Hamilton County: Shell Oil Co.'s Ventrees 1, SW SW SE 12-6s-5e, pool opener, flowed 1208, 966 and 794 barrels in three consecutive days after 5000 gallons acid in Lower O'Hara at 3188-98 ft; ½ mile southwest Kingwood Oil Co.'s Johnson 1, NE SE NE 14-6s-5e, flowed and swabbed 460 barrels in 24 hours natural from Aux Vases 3174-89 ft; cleaning after 70-quart shot. Pure Oil Co.'s Fairweather 2, NE NW SW 7-6s-7e, Dale field, flowed 1250 barrels in 17 hours through casing from Aux Vases, total depth 3040 ft, shot 260-quart, largest gauge yet reported for Hamilton County well.

Indiana

A test was spudding in Welborn Switch area of Posey County, and a second test set casing to Tar Springs sand west of Caborn field production in Posey County.

Posey County: Central States Oil Company's Breeze 1, NW SW SW 19-6s-12w, west of Caborn field, is rumored 70 barrels a day from Tar Springs before shot, not officially confirmed. Same operators set casing to Tar Springs in south offset, Seifert 1, NW 30-6n-12w. In the Welborn Switch area of Lynn Township, two locations west of their recent Cypress sand discovery well now pumping 30 barrels a day, Whisenant & Trenchard were spudding Bundy 1, SW NE SE 17-6s-14w. Disappointing for a McClosky well, was Cherry-Kidd et al's Ford 1, SE SW NW 34-4s-13w, wildcat 4 miles east of New Harmony, pumping 32 bbls after 2500 gallons acid at 2976-86 ft.

North Texas

Deep Oil Indications in Two Clay County Areas

Two Clay County deep areas given new oil zones, and Mississippian prospect dry swabbing test. Confirmation tests near old Electra field's single Ellenberger producer structurally flat. Plugged back well in Hults-Owens pool records big flow.

Clay County: Bridwell Oil Co.'s Halsell 8-A, Section 34, J. Rogers Survey, 2100-ft northwest outpost Halsell 4700-ft pool, scheduled to run pipe and try for completion upper Strawn, yielded 1170 ft oil and 225 ft oil-cut mud, 1550 lbs bottom-hole, 30-minute drill-stem test sand 3654-63 ft. Earlier wells passed up shows this zone. In Ross pool, Continental et al's Ross 3, southeast of discovery, filled 700 ft with oil from conglomerate and lime, 5616-78 ft after drilling plugs from 6-in 5602 ft, hole bottomed in Ellenberger 5766-5846 ft. Production test delayed due to cavings 5695 ft. This outpost passed up good saturation in regular Bend lime, topped 5376 ft, 13 ft low to discovery.

Clay Wildcat: L. T. Burns et al's Wynn 1, 2 mi west by north of Joy, was awaiting results of treatment with 2000 gallons acid in broken saturation 5905-67 ft in Mississippian, topped 5891 ft, 7-in 5890 ft. Failed to show oil or gas when swabbed down through tubing before acidizing. Entered Mississippian 132 ft high when correlated with wildcat 2 mi north. Operators' Wynn 2, twin test to northeast proved dry in 1871-91-ft sand, and machine moved 660 ft west for second shallow test.

Cooke County: Dickson Oil Co. and R. B. George's George 1, projected 6000-ft wildcat 2½ mi south Sivell's Bend, entered Strawn 3040 ft, drilling

shaly-lime 5665 ft. Burk Royalty Co.'s Wilson-Ware 1, offset to C. H. Gannon & Harvey Drilling Co.'s Ware-Wilson 2, recent 2219-27-ft discovery pumper, cemented 7-in 2065 ft to test upper sand 2065-86 ft, having missed projected pay in drilling to 2224 ft.

Montague County: Hults & Owens' Summers 1, north offset Hults-Owens pool discovery and third producer, flowed 196½ bbls oil 2 hours 1-in and later 86 bbls hourly ¾-in choke, used 2000 gals acid, perforations 6034-50 ft in Bend, topped 6040 ft, 35 ft low on this marker. Failed to indicate commercial production in drilling through Pennsylvanian to 7239 ft. Partnership starting west offset and outlying location pending. In Ringgold east extension sector, Superior's Seay 1-A, north offset 5752-62-ft pumper, topped Bend 5644 ft, 36 ft high, drilling above conglomerate 5745 ft. Benson Bros. et al's Lowery 1, Blk 72, A. Benson Survey, 3 mi northeast above production and 3 mi east by north original pool, topped Bend 5736 ft, about 100-ft low, logged oil stain and odor in conglomerate 5775-83 ft, awaiting drill-stem test.

Clingingsmith: Sinclair Prairie's McCall 1, west offset its 6100-ft Basal Pennsylvanian discovery, drilling shale 5450 ft, having tested 185-ft oil and 100 ft drilling mud and water from Strawn sand 5305-20 ft, and Lemon 1 drilling 3200 ft.

Electra Deep: Two indirect offsets to flowing Ellenberger discovery in process completion and structurally flat. W. T. Waggoner Est.'s Fee 33, SEc ne H&TC Section 14, Block 13, Wilbarger County, filled 400 ft with oil and 200 ft brackish water following perforations 2983-87 ft, total depth 3010 ft, awaiting acid. Magnolia's Waggoner-H&TC 64, southeast its discovery, topped Ellenberger 3008 ft, one ft high, halted 3010 ft run pipe. Latter deepened from shallow, and drill-stem test of Canyon 2265-2310 ft yielded 210 ft oil-cut mud and 240 ft salt water.

West Texas

Reagan County Ellenberger Well to Try Deeper Formation

Lubbock County deep Permian prospect dry on preliminary test. Reagan County's Ellenberger discovery deepening to ascertain if lower pays present as numerous leases on University Lands within block require tests by June, 1943.

Lubbock Wildcat: L. C. Harrison et al's Nairn 1, 35 miles northeast Slaughter field, nearest production, scheduled to deepen after proving dry on swabbing test, shaly-lime and dolomite saturation 4893-4905 ft, elevation 3203 ft. This zone is the Clear Fork, or Holt member of Permian, and is productive on west side North Cowden field.

North Basin Deep Tests: In Cochran County, Helmerich & Payne et al's Slaughter 1, 9 miles southwest Morton, abandoned in water 4895 ft. J. W. Murchison et al's Sawyer 1, north edge Wasson field, fishing stuck stem 6788 ft. Topped Glorietta 6045 ft, elevation 3623 ft, and has apparently missed the 6250-6881-ft oil zone proved on south end field. Amon G. Carter's Wasson 4-D, Gaines County sector, plugged back to 9000-ft level to test through perforations in lower Permian, total depth 11,-108 ft. Oil saturation near 7100- and 6300-6600-ft zones that were passed up assure production, but well may be capped rather than to encourage premature development below regular Permian until reasonable allowable and market available.

South Sand Hills: Gulf's Waddell et al 25, ¼ mile east of its Ellenberger discovery, was flowing oil, gas and drilling fluid into pits to acidize, total depth 5651 ft in Ellenberger, topped 5490 ft. Pay thickness and porosity not as favorable as 2 earlier completions this area, which is 4 miles south nearest Sand Hills production.

Reagan Discovery: Amerada's University 1-A-R, C SE NE Section 3, Block 48, which flowed 98 bbls 44-gravity oil 24 hours natural 12/64-in choke, Ellenberger saturation 9017-50 ft and 9060-66 ft, total depth 9080 ft, drilling dry dolomite 9170 ft. Operator to explore Ellenberger section to ascertain if lower pay before projecting development program on 24,000-acre discovery block. Gas/oil ratio 2100/1 on last hour above gauge. Discovery is deepest producer in district, also has casing length record with 5½-in 9017 ft. Upper Ordovician absent, topped detrital 8905 ft and Ellenberger 8960 ft, elevation 2768 ft.

Haskell County: J. W. Crites et al's Hendrick 1, J. Fenner Survey A-582, semi-wildcat, tested 13,000,000 ft dry gas from sandy-lime 1467-89 ft, rock pressure 460 pounds.

Stephens County: F. H. E. Oil Co.-Fleming-Kimbell Corp.'s Ustick 1, SEc S.P. Ry. Section 2, Block 3, gauged 17,760,000 ft dry gas, 1030 pounds rock pressure, sandy-lime 3948-83 ft. Situated west of high gas/oil ratio semi-wildcat completed sand zone October, 1937, by Barnett Pet. Corp. and C. F. Greenwood.

Coleman County: States Oil Corp.'s Featherston 1, NWc M. J. Goble Survey A-118, 3 miles east Novice, flowed 263 bbls oil natural ¾-in choke, lower Strawn 3586-97 ft, shale to 3600 ft, elevation 1958 ft.

East Texas

Larissa Prospect in Cherokee County Has Promising Show

Test on the Larissa prospect, Cherokee County, scheduled to run pipe to test oil saturation in Woodbine. Three wildcat failures in upper Woodbine belt. West offset New Salem cut fault and missed pay.

Cherokee County: Bobby Manziel et al's Limberlog School 1, one-acre tract, John Vaughn Survey, involving third try by group to develop Woodbine production within Humble's Larissa geophysical prospect, credited with logging sand 5020-40 ft, carrying evidence gas in upper and oil saturation below, and halted in shale 5050 ft, elevation 497 ft. Owners promptly added to royalty holdings, paying up to $120 per acre. Electric survey to be run, then set pipe.

Rusk County: L. O. McMillan et al's Pool 2, 935 ft west by north of New Salem pool discovery, missed 4050-ft oil sand due to fault, total depth 4281 ft, plugged back to 3431 ft to side-track at angle. M. D. Bryant et al's Evans 1, south offset discovery, flowed 315 bbls initial ¼-in choke, perforations 4049-52 ft, elevation 404 ft.

Wildcat Failures: Wood County contributed two, involving Powell et al's Market & Miller 1, 2½ miles northeast Hawkins field, 4924 ft, and Fred Strang et al's Old 1, 6½ miles west Rhonesboro, 5013 ft. In Van Zandt County, Hickock & Reynold's Bush 1, Pleasant Young Survey, also found water in Woodbine, 4544-4662 ft.

Henderson County: British-American Oil Producing Co.'s Young 1, 7½ miles southwest Athens, halted in dry Travis Peak, 8367-8474 ft, and will plug back for test of gas-distillate zone in Rodessa porosity, 7706-21 and 7730-52 ft, elevation 393 ft.

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Southwest Texas

LaSalle County Deep Well Still Testing New Formation

Quintana Petroleum Corp.'s Washburn 3, Washburn field, LaSalle County, still an unknown quantity, is showing for at least a large flow of sulphur gas and possibly considerable distillate. It is expected another 10 to 15 days will be required to finally complete.

This well is tentatively classified as being bottomed in the Tamasopa or Tampico, Mexico, big lime, either below or in a lower phase of the Edwards.

Hole was drilled to 11,042 feet. Wilcox was encountered around 3600 feet, sands and shales of this series being drilled to about 5600 feet. Solid shale section, very hard and carrying distillate odor, was cut to 9200 feet. Chalks and limes were drilled to bottom. A black lime and shale with strong petroleum odor was cored 10,000 to 10,100 feet. This probably is the same lime as is locally referred to as the McKnight and which was first noted in Paul Teas' wildcat near Carrizo Springs in Dimmitt County. The formation immediately overlies the Edwards section. The Edwards was considered to be definite at 10,250 feet. At 11,000 feet, the drill went into another type of lime, the bottom 42 feet being that section, referred to as the Tampico.

A string of 13⅜-inch casing was run to 830 feet, 9⅝-inch to 5682 feet and 5-inch to 6020 feet. Two-inch tubing was swung at 5700 feet.

The well was washed down to 5700 feet and swabbed, after which it started heading. Large slugs of the 12.2-pound mud which filled the hole from 5700 feet to the bottom were blown out with sweet gas. As the flow of gas increased, it carried a greater sulphur odor, indicating the first gas from the upper and sulphur gas is from the lower section. of 5022 feet of open hole. Late in the week, pressures equalized at 2200 pounds and the well was making some distillate through ¾-inch choke.

Lower Gulf Coast: H. F. Wilcox Oil & Gas Co. and Ike Howeth's R. Adams 1, blk 25, 1½ miles west Alfred field, Live Oak County, flowed 147 barrels per day ¼-inch choke, 520 pounds tubing, 1500 pounds casing, perforated 4194-99 feet, gravity 47.4 at 90 degrees, water none, gas/oil ratio low. Drilled to 5185 feet, set 5½ about 4350 ft, sand 4194-4206 ft. Opens new Frio sand field.

Heyser, Heard & Clardy's Heard 1, 1 mile south Heard field, Bee County, top sand 4726, drilled to 5309 ft, set 5½ 4868 ft, perforated 4763-66 ft, flow gas and 35 bbls distillate, ¼ choke; extends field.

Wellington Oil Co.'s Parker 1, north offset extension Odem field, San Patricio County, cored oil sand 5295-5310 ft, drilled broken sand 5310-32 ft. Drill-stem test 5295-5300 ft rec 260 ft oil, 375 pounds working pressure, 2400 pounds bottom-hole pressure ¼ and ⅜ chokes 7 minutes. Drill-stem test 5303-10 ft developed 92 pounds 10 minutes, broke down first single, flowed oil, recovered 700 ft. New sand for field. Well drilled ahead to regular sand 5417-30 ft.

Balcones Fault Zone: Ralph R. Ogden's Chamberlain 1, Burleson survey, 4½ miles northwest Dale, Caldwell County, logged oil shows 1875-80, 1886-88 and 1964-73 ft, drilled to 2052 ft, acidized with 2000 gallons and testing. Would open new field.

Shell Oil Co.'s Ridout 1, Brown sur, 7 mi northeast Floresville, Wilson County, reportedly bottomed 5428 ft, was said to be cutting out stuck drill pipe. It showed heavy pressure from a level believed to be in the Edwards limestone.

Humble Oil & Refining Co.'s Wolf 1, Aguirre Grant, 7½ miles north Crystal City, Zavala County, cored sand oil show 3350-76 ft, then topped Austin chalk 5140 ft carrying oil show. Drill-stem test 3350-55 ft recovered 55 ft mud, 5 ft oil, no pressure ¼ chokes 32 minutes. Drill-stem test 3343-79 ft recovered 120 ft oily mud salty taste, no pressure, ¼ chokes 30 minutes. Now coring in lime 5587 ft.

Mirando District: Hiawatha Oil & Gas Co.'s Parr 1-A (was 32) discovery East Benavides field, Duval County, flowed 169 barrels 43-gravity oil plus 20 percent water, ¼ choke, 200 pounds tubing, 1000 pounds casing pressures, gas/oil ratio 155/1. Perforations 4915-18 ft squeezed for rework job to cut off water intrusion.

W. C. McBride's Garza 1, Section 675, 8 miles north Bruni, Webb County, filled 1000 ft with fluid and may be pumped; Glen sand 2336-53 ft.

Texas Gulf Coast

Activity at High Rate But Nothing Important

Operations in Texas Gulf Coast the past week produced nothing of importance, although activity continues at high rate, with new wildcat locations being staked as fast as unsuccessful attempts are abandoned.

Pietzsch Bend: One disappointment of week was abandonment of H. C. Cockburn's Leveridge 1, Pietzsch Bend prospect, northwestern Fort Bend County, after showing water in two shallow sands at 3075 and 3166 ft.

Spurger Outpost: Houston Oil Co.'s and Republic Production Co.'s Hooks 1, east of Spurger field, Tyler County, has assured at least gas production but no oil was found in series of test from about 4900 ft to 4950 ft. It was coring ahead about 5 ft between tests, recovering high gas pressure each time with slight amounts of distillate and no oil.

South Louisiana

New Sand Found in Gueydan Field

A new producing horizon for the Gueydan field, Vermilion Parish, and extension of the Lakeside field, Cameron Parish, were Louisiana Coastal developments of the week.

Gueydan Field: Fohs Oil Co.'s Grady Lee Humble 1, north of production in the Gueydan field, Vermilion Parish, is being completed from 7565-80 ft, where casing was perforated in thick body of Basal Miocene sand. A drill-stem test flowed pipe line oil with 12/64-inch choke at bottom and ¼-inch at top. Well opens second new sand for Fohs within couple of weeks, Mulvey 3 having been completed in new sand in the Oligoceen at 8755-68 ft in the southern part of the area. Fohs is preparing to test Dore 1, east outpost for field.

Calcasieu Parish: Gulf Refining Co.'s Hayes 1 (Calcasieu National Bank), which indicated discovery of new gas-distillate field when it blew out couple of weeks ago, is still blowing but temporarily choked itself off for about 2 hours. It is expected to bridge permanently. So far no operations have been commenced on proposed relief well.

At Moss Lake, Pan American Pro-

duction Co.'s Louisiana Farms & Livestock 1 was drilling around 10,500 ft with nothing of interest reported.

Pan American Production Co.'s Guillory 1, two locations north of discovery and a north offset to Gulf's producer at Pine Prairie, failed to find showing in discovery pay topped at 8367 ft, about 50 ft lower than in Gulf well, and is drilling ahead below 8700 ft. Definitely dry in discovery formation.

Lakeside Field: Superior Oil Corp. has completed Calcasieu National Bank 1 to extend Lakeside field, Cameron Parish, about 3200 ft. Making 53 bbls distillate and about 2,000,000 cubic ft of gas daily from 9900-15 ft.

North Louisiana

Extensive Drilling Planned On Big "Olla Trend" Lease

H. L. Hunt maps extensive Wilcox campaign in North Louisiana; gasser completed in Wilcox in Caldwell Parish wildcat; Union Producing Company gathers data for petition for 640-acre space rule for Smackover-lime in North Lisbon pool.

Plans Drilling Campaign: H. L. Hunt is reported to have leased 359,000 acres in Catahoula, LaSalle, Winn and adjacent parishes in "Olla trend" for Wilcox exploration, obligating to drill 20 offsets to present producers and 25 wildcat locations; out of every 640 acres surrounding wildcat test lessor reserves 160 acres.

Caldwell Parish: Big West Drilling Co.'s Lowe 1, C SE SE 36-12n-3e, completed in Wilcox 2754-59 ft, after perforating 5½-in at 2850 ft, makes 15 million ft dry gas daily. First Wilcox shallow strike in "Olla trend" outside LaSalle Parish and first gas field in trend.

Lisbon: Union Producing Co., which has location for second 10,000-ft Smackover lime test in North Lisbon, is gathering data to submit to Conservation Department asking 640-acre spacing for deep drilling at Lisbon. Big West Drilling Co.'s Alford 1, C W½ 11-21n-4w, east of deep Lisbon gas-distillate well below 6150 ft, and will be taken to 10,000-ft Smackover lime horizon by Hassie Hunt.

Arkansas

Pilot Plant to Test Sweetening McKamie Gas

Pilot plant for sweetening 100,000 cubic feet of McKamie sour gas daily installed for trial period; acid used in McKamie test in Smackover lime; McKamie outpost completed as gas-distillate well.

Pilot Plant Installed: A pilot plant with a 100,000-cubic-foot daily capacity for treating McKamie sour gas produced in this field's gas-distillate wells, installed for four to six months' trial period on Carter Oil Company's Cornelius lease, Section 30-17-23, LaFayette County. If extraction of sulphur from gas found feasible Carter plans to build a desulphurization plant. Similar unit now being built by Lion Oil Refining Company at Magnolia to treat 18 million cubic feet daily and use residue gas to re-pressure Schuler and Smackover wells.

McKamie: Atlantic Refining Co.'s Bodcaw 5, c nw 29-17-23, was acidized after casing perforated; total depth 9381 feet. Carter Oil Company's Hanes 1, c se 25-17-24, west edge well completed, 9346 ft., after perforating in Smackover lime with 100 shots at 9264-80 ft. (elevation 264 ft.); not gauged.

Mississippi

Location for 10,000-Foot Test in Copiah County

Location staked for 10,000-foot geophysical wildcat prospect Copiah County; extensions loom in two directions at Tinsley Dome.

Copiah County: Sun Oil Co. moved in material for Ainsworth 1, NE SE 17-9n-7e, 10 miles from Hazelhurst, on 20,000-acre block, to go 10,000 ft, on geophysical prospect.

Tinsley: Union Producing Co.'s Williams 1, NE 35-10n-3w (elevation 261 ft), cored saturation in Woodruff sand below 4710 ft indicating ½ mile west extension. Same company's Powell 2, SW 36-11n-3w, picked up stray sand Eutaw 5763-85 ft, tested 2000 ft oil and 125 ft oil and mud drill-stem test, bottom-hole 1025 pounds. Oil showed 48.5 gravity, API at 95 degrees. Test is ¼ mile north of production. Hassie Hunt's Woodruff 3, C NW NW 11-10n-3w, abandoned, 4903 ft, missed Woodruff sand, Perry sand dry, topped at 4840 ft (elevation 230); Stevens sand also dry, topped 4890 ft.

Nebraska

Two Good Falls City Wells, One in Shubert Pool

Hunton lime failure east Shubert pool and northeast Falls City pool, Richardson County, two large producers for Falls City area and one for Shubert pool.

Richardson County: Harry Harper et al's Horn 1, C S½ NE SE 35-3n-16e, 4 mi east Shubert pool, dry in Hunton, shut down orders 2600 ft, supported Skelly Oil. Ohio Oil Co.'s Bucholtz 5, NW SE SW 17-1n-16e, flowed 706 bbls oil, no water, 24 hours, Hunton 2227-2312 ft. Skelly's Davisson 4, NWc NE 20-1n-16e, Hunton 2244-2335 ft, perforated, 500 gals acid, pumped 624 bbls oil plus 1.2 percent water. Black Gold Operating Co.'s Bankers Life 1, C SE SW 30-3n-16e, Shubert pool, perforated Hunton 2519-2617 ft, 1000 gals acid, pump 137 bbls oil and 236 bbls water.

Rocky Mountain Area

Possible New Northern Montana Gas Field

Possibility of a new gas field for northern Montana appeared at Haystack Butte structure, while deep test in shallow producing Bison Basin was coring in top of Sundance.

Haystack Butte: Montana-Dakota

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Utilities Co.'s Oswood 1, C NE SW 18-35n-4e, Liberty County, Montana, tested 2 million feet of gas with 347 pounds rock pressure, and at 2164-2244 ft tested 4 million ft under 444 pounds. Well drilling at 2699 ft.

East Ferris: On proved structure in shallow horizons, East Ferris, Carbon County, Wyoming, along the same general uplift of the Wertz-Lost Soldier fields, Sinclair-Wyoming Oil Company is building derrick for Unit 25-C, SE SE NW 25-26n-87w. This is a first test to the Tensleep at East Ferris. The Tensleep yields wells ranging from 2000 to 6000 barrels initial at Wertz.

Little Beaver Dome: A showing of oil has been obtained by Carter Oil Company in a test well located in southeastern Montana but two miles from the Dakota state line. Oil horizon encountered at 6826-37 ft, permitted 300 ft of oil to rise in four-inch drill stem test in 20 minutes, indicating "limited possibilities" according to company geologists. Well now down to about 7500 feet, and will be carried to 10,000 ft. Test looked upon as important in determining future drilling activities in North and South Dakota.

Bison Basin: Bison Basin Oil Co.'s Kirk 1, C NW SW 17-27n-95w, first deep test of Bison Basin shallow semi-proved oil and gas structure in Frontier formation, Fremont County, Wyoming, is coring 2 ft in first objective, Sundance, at 3150 ft. Well reported good saturation in Frontier at 1000-1035 ft.

Rocky Point Failure: An important failure, Continental Oil Co. and Texas Gulf Production Corp.'s Knapp 1, C NE SW SE 4-56n-69w, Rocky Point structure, Campbell County, Wyoming, abandoned at 6105 ft in lower Minelusa.

Cole Creek: Fourth extension, in as many wells, in as many months, for Cole Creek field, Natrona County, Wyoming, was made by General Petroleum Corp.'s 3-16-S (State), NW SW NW 16-35n-77w, quarter mile north nearest producer, pumped 200 barrels initial Shannon sand, 5½-in casing set 4645 ft, bottomed 4697 ft.

New Mexico

Wildcat Between Maljamar And Vacuum Shows

Lea County wildcat between Maljamar and Vacuum fields encountered show gas and oil in upper lime. East edge test for Maljamar field completed for natural flow.

Wildcats: Richmond Drilling Co.'s State-Shell 1, C SW SE 22-17s-33e, passed up show gas 4304-14 ft and show oil 4381-86 ft, drilling lime 4490 ft. Topped lime 4135 ft, elevation 4146 ft.

Fullerton Oil Co.'s State 1, 7 miles northeast Maljamar field, abandoned after nitro shot 4907-97 ft, plugged back from sulphur water 5060 ft.

Culbertson & Irwin, Inc.'s Wingfield-Texaco 1, 4½ miles south of Corbin pool, entered salt series 1570 ft, landed protection pipe 1610 ft.

Carl King Drilling Co.'s State 1, C NW NW 16-11s-38e, drilling hard lime 5005 ft.

Maljamar: Drilling & Exploration Co.'s Johns 2-B, C NW SW 24-17s-32e, east edge, flowed 60 bbls oil natural on four hour gauge from lower pay 4304-4307 ft.

Michigan

Wildcats Promise Oil and Gas in Two Counties

Wildcats promise new gas field in Arenac County and Traverse lime pool in Genesee County. Mile extension east in Reed City logs Dundee in producing contour.

Arenac County: Rayburn & Basin's Mutch 1, NW NW SE 17-19n-4e, Deep River Township, logged Berea 1495 ft, gauged 6,495,000 cu ft gas at 1513 ft. Gas pay killed and well cased at 1530 ft. Hole will be carried to Dundee. Socony-Vacuum checked Dundee 2723 ft on Danckert 1, Section 9-18n-4e, Lincoln Township, and was drilling 3065 ft, scheduled 6000 ft for Monroe and Sylvania.

Genesee County: H. H. Heinig's Dodge 1, SE SW SW 5-9n-8e, logged Traverse lime 1886 ft and through hole full water started making estimated 20 to 30 bbls 48-gr oil day.

Reed City: Gordon's State 1, C S½ NE NE 29-18n-10w, mile east proven area, logged Dundee 3421 ft, 9 ft higher than lowest producing contour in field. No new completions but six tests ready to test Monroe.

Deep Tests: Gulf's Bateson 1, Section 2-14n-4e, Bay County, drilling Trenton brown lime 9763 ft still in hard formation from 9400 ft. Now scheduled to go to St. Peter. Seba Development's Zischke 1, Section 14-5n-3w, Clinton County, resumed after 3 month shut down at 4952 ft; black oil show logged in Salina at 5150 ft.

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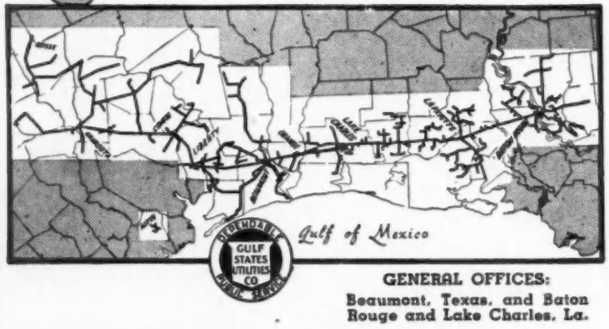

GENERAL OFFICES:
Beaumont, Texas, and Baton Rouge and Lake Charles, La.

UNITED STATES WELL COMPLETIONS

Arkansas

Nevada County (Troy)—

Company, Well and Location	Init. Prod. Bbls.	Depth
Benedum & Trees, Fincher 9, 10-14-20	35	2188
Union County (El Dorado)—		
Anthony & Co., Union 2, 15-18-14	*	2253
Union County (Smackover)—		
J. D. Reynolds, Laney B-4, 8-16-16	*	2690

California

Company, Well and Location	Init. Prod. Bbls.	Depth
Fresno County (Coalinga-Northeast)—		
Pure, E. Coal. Sub No. 1	850	8397
Standard, No. 64-19B	3350	8239
Texas, Gran 2	880	8240
Fresno County (Kettleman North Dome)—		
Standard, 67-17Q	318	10,131
Glenn County (Orland)—		
Holly Sugar Co., No. 1	*	4349
Kern County (Belridge)—		
Belridge Oil Co., No. 18-35	718	8476
Kern County (Coles Levee)—		
Union, Kernco 74-11	629	9949
Kern County (Greeley)—		
General, Sullivan 4	1053	11,490
Superior, Vale 1	462	11,534
Kern County (Kern Front)—		
General, Young 36	72	2025
Kern County (Mount Poso)—		
D. G. Vedder, BNB 5	120	1668
Kern County (Ten Section)—		
Shell, KCL A-3-29	2196	8240
Los Angeles County (Del Valle)—		
R. E. Havenstrite, Lincoln 4	502	6170
Los Angeles County (Dominguez)—		
R. E. Havenstrite, Larronde 7	275	7250
Shell, Reyes 122	306	4245
Union, Austin 16	676	7242
Los Angeles County (Long Beach)—		
Richfield, Malcolm-Davis 7	126	2515
Shell, Babb-Tucker 9	66	3515
Los Angeles County (Newhall-Potrero)—		
Barnsdall, RSF 23	1366	7457
Los Angeles County (Potrero)—		
Basin Oil Co., Potrero 2	75	9923
Los Angeles County (Seal Beach)—		
Continental, Bixby 47	700	4712
Los Angeles County (Wilmington)—		
Continental Dev. Corp., LACFCD 16	331	3112
Long Beach Oil Dev. Co., 30	432	4055
Royalty Service Corp., Comm. 8	368	3550
Selegna Petroleum Co., No. 12	175	3640
Union Pacific, UP 189	45	2783
UP 192	2681	3560
UP 193	289	2896
Orange County (Huntington Beach)—		
H. C. Morton, Brooks 1	70	4745
Signal, Sig.-Bolsa 33-A	304	4650
Santa Barbara County (Capitan)—		
General, Erburu 12 (pd 1578)	116	2579
Ventura County (Cat Canyon)—		
O. C. Field Gaso. Co., Palmer-Stendel 24-1	*	3363
Ventura County (San Miguelito-Padre Canyon)—		
Continental, Grubb 23	120	7310
OLD WELLS DEEPENED		
Los Angeles County (Inglewood)—		
Oscar Howard, No. 1 (otd 2486)	500	8311
Orange County (Huntington Beach)—		
V. R. G. Wilbur, Twining 3 (otd 3486)	85	4595
Ventura County (Ventura Avenue)—		
Tide Water, VL&W 23 (otd 6350)	122	7417

Illinois

Company, Well and Location	Init. Prod. Bbls.	Depth
Clay County—		
Shulman Bros., Ross 1, w ½ ne nw nw 15-3n-7e (pb 2328)	*	2610
Pure Oil, Brissenden 4, c w½ nw ne 8-2n-8e	83	3048
Hosselton 2, c e½ nw se 18-2n-8e	192	3101
Edwards County—		
Magnolia, Fewkes 1, n½ ne se sw 7-2s-11e (pb 3123)	1023	3158
Fayette County—		
Carter, Griffith 15, sw nw ne 31-7n-3e	42	1580
Doty 4 ne nw ne 13-8n-3e	24	1533
S & O Buzzard 2, nw sw sw 35-9n-3e	168	1534
Fulks 1, sw se ne 36-9n-3e	*	1696
Penn O. & G. Corp, Sloan 1, se se ne 4-8n-3e	*	1417
Franklin County—		
Smokey Oil, Moore 1, nw se sw 14-6s-2e	*	3021
Minerva, McLeod 1-A, ne ne se nw 23-6s-2e	57	2127
Wegener, CW&F Coal et al 3, s½ sw sw 25-6s-2e	452	2148
Adkins, Lager 1, se ne ne 35-6s-2e	267	2150
Shell, CW&F Coal "R" 12, sw nw nw 36-6s-2e	529	2173
McKenzie 3, ne se ne 25-6s-2e	221	2152
Menhall, Stalcup 5, se ne se 23-6s-2e	262	2076
Mosely 2, e½ sw nw nw 25-6s-2e	392	2152
Moore 8, sw nw sw 25-6s-2e	258	2140
Gallatin County—		
Blackstock et al, Cox 1, nw nw sw 2-8s-9e	40	3020
Carter, Curry 2, nw se nw 15-8s-10e	*	2094
Leach & Halbert, Curry 8, ne nw nw 15-8s-10e	210	2085
Sinclair Wyoming, Leach 2, ne sw ne 16-8s-10e	98	2899
Hamilton County—		
Texas, McDonald 2, sw sw ne 11-6s-6e	180	3059
Clark 2, ne ne sw 7-6s-7e	307	3010
Ohio, Trotter 2, n½ nw sw 27-3s-5e	325	3311
Wilson 4, sw sw ne 6-6s-7e	53	3015
Cameron Bros., Kern 5, se se sw 7-6s-7e	300	3024
Jasper County—		
Pure, Hall Consol. 1, c e½ se ne 19-5n-10e	*	2880
Lain O. & G., Jones Consol. 1, se ne ne 8-6n-10e	741	2806
Texas Co., Gregorie 1, sw ne ne 8-6n-10e	500	2782
J. P. Gordon, Snyder 1, c w½ se nw 36-7n-10e	*	2720
Jefferson County—		
Rabus et al, Leeper 1, ne nw nw 16-1s-2e	*	2256
Kingwood, Sledge 1, c n½ se sw 20-1s-4e	*	2886
1st Nat. Bk. of Woodlawn 1, se ne sw 35-2s-1e	961	1972
J. A. Burnham, Pearce 1, c w½ se sw 35-4s-3e	*	3132
Lawrence County—		
Walter Payne, Payne 1, nw sw nw 20-3n-11w	*	1855
Marion County—		
Max Conrey, Rogier 1, c nw se se 4-3n-1e	*	1518
Austin Oil, P. F. Smith 1, se se sw 12-3n-2e	*	2568
Goodson et al, Smith 1, ne nw ne sw 25-4n-1e	*	1930
Adams O. & G., Boyd 5, sw ne ne 29-4n-1e	65	1431
Pugh 7, ne nw se 29-4n-1e	75	1430
Pugh 8, se sw ne 29-4n-1e	10	1583
Shell, Headley 4-A, ne sw ne 34-4n-1e	203	1365
Highland Oil, Thalman 1, nw nw sw 35-4n-1e	66	1366

[*Continued on next page*]

*Failures; †Junked; ¶Million cu. ft. gas.

Summary of Drilling Operations in the United States, Week Ended August 9, 1941

	WELLS COMPLETED								*PERMITS FOR NEW WELLS				
		New Wells Drilled for Oil and Gas											
	Total for Week	Oil Wells	Gas Wells	Failures	†Miscellaneous	Initial Production	Total 1941	Total this Date 1940	This Week	Total this Month	Total 1941	Total this Date 1940	Year Total 1940
Alabama	.....	.....	....	....	....	.....	1	3	....	.....	.....	.....	.....
Arkansas	3	1	....	2	....	35	99	117	6	6	111	93	153
California	36	34	....	2	....	20,378	726	703	19	19	699	662	1,042
Colorado	.....	.....	....	....	....	.....	10	5	....	.....	.....	.....	.....
Florida	.....	.....	....	....	....	.....	.....	1	....	.....	.....	.....	.....
Georgia	.....	.....	....	....	....	.....	1	.....	....	.....	.....	.....	.....
Illinois	85	65	....	19	1	11,497	2,188	2,424	91	91	2,752	2,757	4,532
Indiana	26	16	4	6	....	2,382	325	264	10	10	104‡	.....	.....
Iowa	.....	.....	....	....	....	.....	2	.....	....	.....	.....	.....	.....
Kansas	42	33	....	9	....	34,974	1,343	203	52	52	1,401	1,253	2,048
Kentucky	12	2	....	10	....	40	181	194	10	10	57‡	.....	.....
Louisiana	27	15	5	7	....	2,932	861	1,060	44	44	1,067	1,033	1,658
Michigan	14	6	....	8	....	2,250	490	779	18	18	521	703	1,093
Mississippi	6	3	....	3	....	3,805	109	114	....	.....	.....	.....	.....
*Missouri	.....	.....	....	....	....	.....	33	7	....	.....	9	.....	23
Montana	9	7	2	....	....	755	118	116	....	.....	.....	.....	.....
*Nebraska	4	2	....	2	....	1,040	53	6	7	7	63	3	69
New Mexico	10	5	1	4	....	990	216	448	7	7	256	396	559
New York	.....	.....	....	....	....	.....	524	654	....	.....	.....	.....	.....
Ohio	37	7	16	10	4	223	990	539	....	.....	.....	.....	.....
Oklahoma	55	32	4	19	....	11,173	1,275	1,338	62	62	1,340	1,126	1,888
Pennsylvania	66	50	5	2	9	61	2,246	2,304	....	.....	.....	.....	.....
South Dakota	.....	.....	....	....	....	.....	.....	1	....	.....	.....	.....	.....
Tennessee	.....	.....	....	....	....	.....	7	8	....	.....	.....	.....	.....
Texas	226	170	8	46	2	82,539	6,093	6,468	162	162	7,321	7,276	11,170
Utah	.....	.....	....	....	....	.....	1	2	....	.....	.....	.....	.....
West Virginia	15	3	12	....	....	13	395	339	....	.....	163	472	782
Wyoming	5	4	....	1	....	747	71	89	....	.....	.....	1	1
Total this week	678	455	57	150	16	175,834	18,358	19,186	488	488	15,864	15,775	25,021
Total last week	630	440	46	110	34	186,489	17,680	18,578	613	3,028	15,376	15,373	25,021
Total this year	18,358	11,366	1,353	4,024	1,615	5,190,495	.....	.....	....	.....	.....	.....	.....

* This tabulation includes those states where weekly data are available; figures for Missouri date from August 10, 1940; Nebraska from August 3, 1941.
‡ No data available before June 14, 1941.
† Includes old wells deepened, water-intake, gas input and salt water disposal wells.

United States Well Completions—*Continued*

ILLINOIS—Continued

Richland County—
R. Weiner, Carroll Smith 1, c w½ ne nw 5-2n-9e ..... • 3120
St. Clair County—
Magnolia, Probst 1, se se se 2-2s-9w • 1450
Wabash County—
White & Wickwire, Price 2, ne nw ne sw 14-1n-12w 100 1621
R. B. Jackson, Freeman 1, nw se ne 36-2n-12w 21 1951
Shell, Hein 6, sw sw se 18-1s-12w 77 2050
Tide Water, Collins 1, e½ ne sw nw 20-2s-13w 18 2497
Washington County—
Ohio, Poggenmoeller 2, se sw se 10-1s-1w ..... • 1531
Powell & Risk, Holle 2, ne ne nw 15-1s-1w 110 1532
Wayne County—
Tide Water, Mitchell 1, e½ se se 24-2s-9e 145 3365
Pure, Barth 1, c e½ ne nw 12-1n-7e • 3069
Wells 1, 70's of ne se nw 31-2n-8e 231 3030
White County—
First Nat. Pet. Tr., Hon 4, se nw sw 33-3s-14w 54 2626
Johnson 1, ne se nw 5-5s-14w 56 2985
Buell & Herndon, Garrison Hrs. 3, se ne nw 8-4s-14w 52 2854
Jarvis Bros., Collins 2, nw se sw 22-4s-14w 25 2968
Paul Miller, Ford Hrs. 7, se nw sw 22-4s-14w 51 2860
Superior, Fitton 10, nw se nw 23-4s-14w 254 2941
H. C. Ford et al 12, nw nw sw 27-4s-14w 112 2850
Sun et al, Jacobs 2, ne nw sw 28-4s-14w 110 2723
Tide Water, Dennis 26, c w½ ne 33-4s-14w 140 2735
Sun, Greathouse 32, se ne ne 5-5s-14w (pb 2870) 24 2951
J. J. Deaner, Porter 1, nw se sw 12-7s-8e (pb 2575) 80 2754
Sinclair-Wyoming, Brockett 1, n½ se sw sw 12-7s-8e 92 2748
Brockett 2, sw sw sw 12-7s-8e 216 2760

GAS INPUT WELL

Fayette County—
Carter, Wood 13-4, sw c ne ne 13-8n-3e (pb 1547) ..... • 1604

OLD WELLS REWORKED

Fayette County—
Texas, Neathery 1, ne ne nw 6-6n-3e (otd 1565) 123 1580
Neathery 4, se ne nw 6-6n-3e (otd 1562) 160 1579
Wooten 6, se se sw 31-7n-3e (otd 1551) 129 1577
Hamilton County—
Tide Water, Morlo 2, sw ne se 3-6s-6e (otd 3075) 191 3083
Kingwood, Dodd 1, se se nw 6-6s-7e (otd 2708) 146 2988
Lawrence County—
AAA O. & G., Pinkstaff 1, w½ e½ ne sw 12-4n-11w (otd 1116) .... • 1655
Marion County—
Ohio Oil, Young Hrs. 35, ne se sw 29-2n-2e (otd 3435) 106 4630
Texas, Kalkbrenner 4, ne ne se sw 5-1n-2e (otd 1780) 96 1845
Kalkbrenner 13, sw sw nw se 5-1n-2e (otd 1969) 54 2230
N. Young 7, c n½ se ne 20-2n-2e (otd 2015) 18 2235
J. Chapman 13, se nw sw 28-2n-2e (otd 2073) 15 2221
Lee 5, se se sw 28-2n-2e (otd 1805) 15 1826
Farthing 5, ne nw se 32-2n-2e (otd 2037) 160 2220
Friesner 16, c s½ se nw 32-2n-2e (otd 1989) 70 2200
Miller 8, nw ne se 32-2n-2e (otd 2040) 56 2225
White County—
New Penn Dev., Whitlow 2, nw nw sw 28-3s-9e (otd 3432) 85 3441

Indiana

Daviess County—
Harjoche Oil Co., Gaither 8, sw nw ne sw 21-2n-7w 20 1009
Gaither 9, nw sw ne sw 21-2n-7w 25 948
R. D. Brown Inc., McCracken 2, c n½ nw ne 21-2n-6w .....¶300 738
J. W. Cannon, Walker 1, ne se se ne 5-2n-5w 5 592
Decatur County—
Hoosier Pub. Util., Verrkamp 226, c sw ne 15-9n-9e .....¶130 897
Gibson County—
Nash Redwine, Cooper 1, e½ se ne nw 19-3s-13w 75 2095
Hall Edwards Rec., Maier 41-A sw se sw 11-3s-14w 200 2555
Maier 47, se sw sw 12-3s-14w .. • 2879
Maier 21-A, se sw ne 14-3s-14w. 275 2540
Continental, Bozeman Ld. 46, nw nw sw 23-3s-14w 210 2167
Harrison County—
Indiana Util. Corp., Kintner 1, se sw nw 6-3s-4e ..... ¶82 826
Perry County—
Dice, Stroble 1, e½ nw se nw 5-6s-3w ..... • 622
Pike County—
Southwestern Dev., Abbott 1, nw sw se 19-1n-6w ..... • 755
Posey County—
Continental, Kleiderer 8, sw sw ne 33-3s-14w 55 1845
Kleiderer 9, se sw ne 33-3s-14w 200 2896
Tide Water Assoc., Doll 12, sw nw se 33-3s-14w 160 2894
Cherry Kidd, Gray, Trs. 1, w½ sw se sw 35-3s-14w 72 2846
Ed Holmans, Mumford Realty 4, nw sw ne 32-3s-13w 47 2949
Superior Oil, New Harmony Realty 30, sw se sw 34-4s-14w 290 2911
Randolph County—
Unionport Gas, Starbuck 1, se se se 4-19n-13e .....¶300 1078
Clark 1, nw ne nw 16-19n-13e .. • 385
Spencer County—
Hedges & Seagles, Ebley 1, nw ne sw nw 7-7s-7w 700 1053
Starke County—
J. L. Black et al, Kennedy 1, nw sw ne 26-33n-2w ..... • 1160
Vanderburgh County—
Vanderburg Oil, Homby 10, nw se ne se 32-5s-10w 15 935
Yakey et al, Wiley 1, sw sw ne 1-6s-14w ..... • 1338
Whisenant & Trenchard, McFaddin 1, sw nw sw 16-6s-14w 33 2820

Kansas

Barton County—
Sinclair Prairie, Harzman 1, c n½ nw se 33-16-11w 719 3358½
Hoffman 9, c w½ sw ne 7-16-13w 3000 3353
R. E. Day et al, Schauf 1, c s½ se sw 11-16-12w 961 3364
Isern Bros. et al, Laudick 1, c s½ sw nw 28-16-12w ..... • 3386
Shell, Kinzell 1, sec sw 2-18-12w. • 3364
Butler County—
Bisagno Bros., Fee 3, c n½ ne se 35-26-5e ..... • 3232
Plymate & Bornholdt, Owens 3, nw se ne 19-29-4e (pb 1910) 6 1930
Cowley County—
Pryor & Lockhart, Hall 1, c s½ se ne 5-33-6e ..... • 3534
Dickinson County—
A. R. Jones, Kuntz 1, c e½ ne se 6-16-4e ..... • 2620
Ellis County—
Cities Service, Collahan C 4, ne sw se 24-11-17w 3000 3413
Central Pet., Carmichael 2, csl se nw ne 11-11-18w 2670 3479½
Ellsworth County—
Spencer & Yarnell, Patzner 5, c e½ ne sw 31-17-10w 138 3298
Greenwood County—
Phillips, DeMallorie-Souder 84, nw sw se 2-22-10e 8 2126
O. K. O. Co., Shedel 20, ne ne sw se 15-23-13e 120 1805
Shaffer & Howell, Schneider 22, ne ne sw nw 15-23-13e 6 1789
Allan, Lewis, Saco et al, Gibbon 1, se nec sw 8-28-11e 12 1232½
Leavenworth County—
Longwell et al, McLouth 2, c ne sw 3-10-20e 50 1420
Marion County—
Harwood, Novak 10, se ne nw 28-17-4e 213 2425
McPherson County—
McKan et al, Suffield 5, c nw se 25-19-2w 100 2974
Phillips County—
Cities Service, Vehige 1, swc 28-5-20w 2572 3655
Pratt County—
Skelly, Miller 4, c w½ nw nw 36-27-11w 133 3520½
Atlantic & Skelly, Harrell "B" 1, c s½ se se 2-27-13w 533 4270½
Reno County—
Central Pet., Dyck 1, c w½ nw sw 4-22-4w ..... • 4004
Rice County—
Cities Service, Rose 2, nw sw ne 11-18-8w 302 3267
Brunson et al, Stratton 1, c w½ nw sw 2-19-9w ..... • 3381
I. W. Murfin, Jochens 1, c e½ ne sw 16-19-10w ..... • 3369
Branine & Holl, Wenke 1, c e½ se se 18-20-10w 1901 3125
Rooks County—
Broadview Oil Co., Beardmore 4, c n½ sw sw 2-9-16w 793 3210
Russell County—
Cities Service, Flegler 1, c w½ sw nw 28-14-14w 3000 3230
Westgate-Greenland, Rusch 3, c e½ ne ne 29-14-14w 694 3247
Ohio, Harbaugh 8, c w½ nw nw 25-14-15w 51 3224
Phillips, Sidey 2, c s½ se sw 34-15-11w 90 3301½
Phil-Han et al, Kauffman 2, nw ne nw 10-15-12w ..... • 3264
Coralena, Holland 2, c n½ se nw 16-15-13w 696 3087
Isern Bros. et al, Schultz 3, c s½ nw ne 16-15-13w 257 3075
Stafford County—
Stanolind, Helmers 3, c e½ nw nw 1-22-12w 284 3559
O'Conner 2, c w½ nw nw 14-24-12w 3000 3831
Cities Service, Kanoche 1, nwc se 28-23-12w 2235 3847
Champlin, Figger 1, c e½ se ne 9-24-11w 3000 3815
Porter et al, Richardson 2, cel se sw sw 10-24-11w 3000 3827½
Woodson County—
O. K. O. Co., Hogueland 8, se sec 35-23-14e 3 1648

OLD WELL DEEPENED

Pawnee County—
Stanolind, Belt 1, nec sw 13-20-16w (otd 3825) 1427 3840

Kentucky

Daviess County—
H. C. Farmet et al, Brown 4, 12-n-29 ..... • 1406
Stewart & Snyder, Burkhead 1, 20-n-29 ..... • 1580
Henderson County—
Jack Cox, Allen 1, 6-p-26 ..... • 550
Basin Drlg., Busby 1, 23-p-26 .... • 1507
Muhlenberg County—
W. S. Tatum, Adkins 1, 11-I-27 .... • 2064
Ohio County—
Frank Randall, Hoover 11, 14-m-32 5 393
Steele & Miller, Carson 1, 17-m-31 • 203
Vickers, Cullen 6, 13-n-34 ..... • 455
Johnson et al, Rhodes 23, 8-n-33 .. • 666
Wilbur Wilkie et al, Westerfield 1, 25-n-31 ..... 35 866
Union County—
Sun & Ky. Nat. Gas., Blue 1, 6-n-21 • 2835

OLD WELL REWORKED

Daviess County—
Master Oil, Iglehart 1, 25-n-29 (otd 1467) ..... • 1736

South Louisiana

Beauregard Parish (Wildcat)—
Humble, Edgewood 1 ..... • 11541
East Baton Rouge Parish (University)—
Wm. Hells, L. S. U. 8-A ..... • 1082
Evangeline Parish (Ville Platte)—
Continental, Vidrine 1, tr 4 ..... 237 10246
Markley & Vrosby, Soileau 1 ..... • 10320
Iberia Parish (Little Bayou)—
Lisbon Ibera, Gulf Fee 12 ..... 142 6066
Texas Co., Duhe 21 ..... 219 6236
Iberville Parish (Bayou Blue)—
Superior, Schwing 14 ..... 100 4864
Jefferson Parish (Barataria)—
California, Fleming C-15 ..... 248 7656
Jefferson Parish (Lafitte)—
LaFitte O. Corp., Parish & Jefferson 1 ..... 300 10161
La Fourche (Delta Farms)—
Texas Co., State 1 ..... 470 10433
La Fourche (Golden Meadow)—
Brownwood, Lefort 3 ..... 287 5515
Texas Co., LaTerre 10 ..... • 10560
Catfish Lake State 13 ..... • 2813
St. Landry Parish—
Bowles & Hafner, Hidalgo 1 ..... • 8532
St. Mary Parish (Jeanerette)—
Herton Oil Co., Banta-Roan 3 ..... 175 10300
Terrebonne Parish—
Sinclair Prairie, Duplantis 1 ..... • 11020

North Louisiana

Bossier Parish (Bellevue)—
Premier Inv. Co., Wyche 53, 14-19n-11w 25 399
Bossier Parish (Sligo)—
Triangle Drlg. Co., Murff A-3, 18-17n-11w 70 3139
Caddo Parish (Pine Island)—
Magnolia, Doan-Thigpen 32, 6-20n-15w 55 1547
Caldwell Parish (Wildcat)—
Big West Drlg. Co., Lowe 1, 36-12n-3e ..... ¶15 4009
La Salle Parish (Olla)—
Placid Oil Co., La. Central Lbr. Co. 99, 1-9n-2e 290 2437
La. Central Lbr. Co. 101, 3-9n-2e 170 2446
Tallaferro A-1, 26-10n-2e 144 2377
Union Parish (Monroe)—
Interstate Nat. Gas. Co., Fee 108, 36-21n-3e .....¶1¼ 2153
Fee 109, 1-21n-3e .....¶3½ 2188
N. & W. Corp., Gladney 1, 2-21n-3e ..... ¶½ 2165
Nemours Corp., Edwards 2, 2-21n-3e .....¶1¼ 2165

United States Well Completions—*Continued*

Michigan

Allegan County—

Company, Well and Location	Init. Prod. Bbls.	Depth
Sprenger Bros., Waring 1, sw sw sw 8-1n-15w	•	1204
W. L. McClanahan, Van Rhee 1, nw ne se 3-4n-14w	•	1601
James Bralley, Ter Meer 1, nw nw se 20-4n-13w	•	1702
J. W. McIntosh, Darby 1, nw sw nw 20-1n-13w	40	1348

Arenac County—

Don Rayburn, Kerr 2, nw ne ne 22-19n-3e	1600	2866

Bay County—

Freeman Oil Co., Rae 1, sw sw ne 12-14n-4e	30	2912
Gulf, Weidnt 1, nw sw sw 34-15n-4e	90	2936

Clare County—

Sun, Thayer 5, c w½ sw sw 29-20n-6w	•	3810
State A-6, c n½ se sw 36-20n-6w	425	3766

Oceana County—

Welsh Oil Co., Branstrom 1, sw sw sw 12-13n-15w	•	2879

Osceola County—

C. L. Maguire, Watson 1, c e½ se nw 1-17n-19w	•	3950

Ottawa County—

Mesel & Spielberg, Cross 1, se sw nw 14-7n-13w	65	1889

Shiawassee County—

O. A. Daniel, Garrity 1, ne ne ne 27-5n-2e	•	1825

Van Buren County—

Clapsaddle & Harris, Parisian 1, c e½ nw 13-1s-15w	•	1276

Mississippi

Montgomery County (Wildcat)—

Henderson Oil Co., School Board 1, 16-19n-6e	•	4280

Stone County (Wildcat)—

Danciger O. & R. Co., School Board 1, 16-2s-11w	•	8522

Yazoo County (Tinsley Dome)—

Hassie Hunt, Woodruff 3, 11-10n-3w	•	4903
Cessna 1, 7-10n-2w	245	5611
Magnolia, Payne 3, 36-10n-3w	2880	4851
Mid-States Oil Corp., Cummings 3, 31-10n-2w	680	4986

Montana

Glacier County (Cut Bank)—

Davies Tribal 1, ne ne ne 25-32n-6w	88	2997
Glacier Prod., Bonnet 6, csc sw ne 4-32n-5w	140	2945
Miller 7, cwl se ne 32-33n-5w	65	2967
Pioneer Lumber Co., Anderson 1, nw ne nw 31-32n-5w	165	3035
K. D. Pardee, Tribal 1, se sw ne 13-32n-6w	165	2997

Liberty County (Whitlash)—

Western Nat. Gas Co., Herbert 1, cne sw 28-37n-4e	¶4	1680

Toole County (Kevin)—

Mills Oil Co., Government 3, csl ne se 8-35n-2w	120	1561
Dakota-Montana Utilities Co., Johnson 323, nw nw nw 35-34n-1w	¶1½	1442
M. F. Toles, Norum 12, sw se sw 33-35n-2w	12	1489

Nebraska

Richardson County—

Powers & Stalder, Albin 1, sw nw sw 10-1n-14e	•	2089
Ohio, Bahr 4, c ne sw 7-1n-16e	240	2290
Harper, Seibbernson 5, c n½ n½ nw 20-1n-16e	800	2312
J. & M. Oil Co., Towle 1, se nw sw 20-1n-16e	•	2380

New Mexico

Chaves County (Wildcat)—

Frank Montgomery et al, Purcell 1-B, c w½ sw nw 13-11s-26e	•	2202

Eddy County (Wildcat)—

Sanders Bros. et al, DeTemple 1, c sw sw 27-19s-31e	•	2590

Lea County (Cooper)—

Skelly, Cooper 1, c ne sw 12-24s-36e	205	3607

Lea County (Halfway)—

Argo Oil Corp., State-Texaco 2-A, c sw sw 16-20s-32e	•	2696

Lea County (Maljamar)—

Paul Love et al, Pearsall 1-B, c nw nw 4-18s-32e	331	3710
W. J. Rutledge et al, Mitchell 1-B, c se se 17-17s-32e	54	4136

Lea County (Vacuum)—

Phillips, State-Santa Fe 44, nw se ne 34-17s-35e	360	4578

Lea County (Wildcat)—

Fullerton Oil Co., State 1, c ne se 18-16s-33e	•	5060

McKinley County—

Petroleum Producers, Santa Fe 14, nwc ne 1-17n-9w	40	1609

San Juan County—

Southern Union Prod. Co., Santa Fe 4, c ne sw 12-29n-12w	¶2¼	1954

Ohio

Ashland County—

Gold Crown, Easley 12	¶0.3&10	740

Athens County—

B. Johnson, Snow 1	¶0.76	865
Mathews Oil, Featherstone 5	¶0.05	556
Wickens, Jackson 4	•	860

Coshocton County—

Rutledge, Robinson & Mosholder, Hains 1	¶0.84	3118

Guernsey County—

Belmont Quad. Dr., Farley 1	•	1780

Knox County—

Preston Oil, Earlywine 1	60	2970
H. E. Perkins, Horn 1	¶0.18	2591
Ohio Fuel Gas, Miller 2	•	2875

Lawrence County—

Ohio Fuel Gas, Rich 1	¶0.1	2930

Licking County—

Allen Willey, Lynn 4	¶1.25	2605
Geo. Locknett, Wince 1	¶0.02	740
Wittmer Co., Bullock 1	•	2470
Vermillion Oil, Fee 1	•	2957
Wayne Moore et al, Vermillion 1	•	2840

Medina County—

Preston Oil, Young 1	15	513
Packard 1	•	332
Thornton Prod. Co., Buchanan 1	1	519

Meigs County—

Fleming, Saxton 1	¶2.1	1055
Roy Proffitt, Goodwin 1	•	3501

Monroe County—

Henning & Hall, Smith 1	¶0.62	1184

Muskinum County—

Gas Prod. Co. of O., Dickson 1	¶1.5	4238
Ohio Fuel Gas, Morrison 1	¶0.4	4040
Staker 3	¶0.3	4220
Franklin Dr. Co., Saunders 2	¶0.4	4190

Noble County—

Geo. Eichorn, Fee 1	•	810

Perry County—

Pure O., Cannon 1	¶0.08&130	3280
C. Z. Ruth, North West Coal 27	•	1062

Tuscarawas County—

Columbian Carbon, Bair 1	¶0.3	4766

Washington County—

Henderson Oil, Scott 46	3	644
Scott 48	4	640
Baker, Green 1	¶0.47	1321
McGinnis, McCurdy 3	¶0.1	1422

GAS INPUT WELLS

Medina County—

Thornton Prod. Co., Ross et al 0-1	...	934
Ross et al 0-2	...	450
Ross et al 0-3	...	446

Washington County—

Henderson Oil, Scott 47	...	660

Oklahoma

Bryan County—

Pure, Little (208) 1, swc nw 27-5s-7e (pb 5065)	418	5073
Thompson (108) 1, sw ne ne 28-5s-7e	576	5070

Caddo County—

Olsen Drlg. Co. et al, Kaw-ay-Kla 1, se ne nw 28-6n-11w	•	5205

Carter County—

Gibson & Jennings, Harrell "A" 8, nw se sw nw 20-4s-2w	2500	2033
Gilmer Oil Co., Hernstat 14, nw se nw 3-4s-3w	6	991

Comanche County—

J. S. Jent et al, Lowe 5, nw sw ne nw 7-1n-10w	•	300
Hamblen et al, Phillips 1, nec nw 34-1n-13w	•	445

Creek County—

Lewis Prod. Co., Jones 7, nec sw 32-15n-7e	24	2807
Jones 8, sec sw 32-15n-7e	140	2854
Shell, Jones 10, swc 32-15n-7e	179	2916
Summit Drlg. Co., Fisher 3, ne nw se 32-15n-7e	200	2860
T. C. Greer, Dressler 1, nw nwc se 16-17n-8e (pb 2324)	14	2332
M. L. Marrs, Dressler 1, se nec sw 16-17n-8e (pb 2329)	40	2330
Indo Oil Co., Koch 2, sw swc ne 18-17n-11e	•	2872
Sinclair Prairie, Berryhill 26, ne ne sw nw 16-17n-12e (pb 1556)	28	1564

Jackson County—

A. Briton, Moon 1, se sw ne 31-1n-19w	•	2696

Lincoln County—

Logan & Cooper, Oesterman 1, se ne se 11-16n-5e	•	3635

Logan County—

Continental, Donoghue A 3, sw ne sw 7-17n-1w	848	5503
T. N. Berry et al, Howland 1, swc nw 8-17n-1w	•	5459

Marshall County—

Pure, Crissman (104) 2, ne se se 20-5s-7e	578	5100

McIntosh County—

J. H. Rebold, Warner 1, nec 11-12n-16e	¶0.6	2113

Okfuskee County—

W. B. Wells, Stephenson 2, se ne se 14-10n-11e	•	2056
Doak & Hughes, Kirk 1, nec 21-10n-11e	•	2832
Shell, Curry B 1-A, sw se sw 26-11n-8e (pb 4158)	1795	4247
Deep Rock, Owens 1, nw ne se 20-11n-9e	¶75	3960
Grimes & Neal, Wind 9, c s½ se ne 35-11n-9e	25	1507
Shelton Drlg. Co., Armstrong 1, sec ne 3-11n-10e (pb 3130)	84	3394
Devonian, Phillips A 3, sw ne sw 26-12n-8e	•	103
Texas, Montgomery 1, c s½ se ne 16-12n-9e	•	3804

Okmulgee County—

Wood, Palmer 2, se ne nw 13-12n-12e	¶4	2042
Stonehill Drlg. Co., Walker 1-A, sw sw nw nw 8-13n-14e	•	2677
W. A. Anthony, Barnett 1-A, ne ne nw sw 6-14n-15e	7	701

Osage County—

Texas, Naval Reserve 2, nw sw se 9-23n-7e	116	3058
Blackwell, Tucker 13, cel ne sw sw 3-28n-11e	40	956

Pawnee County—

Sand Springs Home, Launer 1, swc 25-20n-6e	6	3144

Pottawatomie County—

G. W. Garr, Walker 2, swc se 9-5n-5e	180	2513
Oils, Inc., Walker 4, sec sw 9-5n-5e	50	2465
Sinclair Prairie et al, Rice "A" 3, ne sw ne 17-7n-4e	658	4159
Ark Royalty Co., Sparkman 2, sw se ne 33-8n-4e	360	3904
Crosbie & Atlantic, State 2, sec nw 16-9n-4e	795	4638
Alma, Nadeau 1, c sw ne 24-9n-4e	255	4347
Manahan, Brown 1, sec 21-10n-3e	•	5597
Hall-Jordan, Pensoneau 2, ne sw sw 36-10n-3e	615	5220
Kerlyn, Groinhorn 1, ne sw sw 33-11n-4e	•	4441

Seminole County—

McQueen et al, McCann 4, ne se ne 33-7n-6e	70	2804
Russell Patterson, Horton 1, nec sw 19-8n-8e	•	3305

Stephens County—

Helmerich & Payne, Cryer 1, se ne sw 33-2n-5w	•	6795
Winkler et al, Coulston 1, ne se se 28-1s-5w	•	2540
Magnolia, Dillard 23, sw nw se ne 2-2s-5w	49	685
Dillard 24, se ne sw ne 2-2s-5w	•	716

Tillman County—

Price et al, Crow 1, nwc ne 24-2s-15w	•	1927

Oklahoma County—

I. T. I. O., Clauer 17, csl nw se se 25-11n-3w	28	6522

OLD WELLS DEEPENED

Carter County—

Walter Neustadt, Choate (160) 3, ne ne se se 18-4s-2w (otd 2113)	469	2148

Seminole County—

Magnolia, Fleet-Osborn 6, se ne se 26-5n-7e (otd 2331) (pb 2045)	¶4	4113
Carter, Strothers 2, nw ne se 34-9n-6e (otd 4130)	19	4254

Pennsylvania

BRADFORD DISTRICT

Bradford District—

Tapp, Gallets & Buffington, Fee	3	....
J. P. Kervin, South Penn	½	....
G. W. Smith Estate, Fee	¼	....
Forest Oil Corp.	1	....
Forest Pet. Corp., 2 wells	2	....
Niagara Oil Corp., 6 wells	6	....
Bradford Transit Co., 31 wells	31	....
L. F. Kinley et al, Mentz	3	....
D.Y.M. Corp., Bing 466	1	....
Dallas Oil Co., Ekas	1	....

WATER INTAKE WELLS

N.V.V. Franchot, M. T. Campbell	..	....
Messer Oil Corp., Redfield	..	....
Forest Oil Corp.	..	....
Forest Pet. Corp.	..	....
Niagara Oil Corp., 3 wells	..	....
George Van Vechten & Sons, Tarr	..	....
Esther Oil Co., Inc., Lamton	..	....

NEW YORK-PENN GAS FIELD

Hanley & Bird, S. R. Fairbanks	¶	....

Middle District—

F. G. Youkers, Black	½	....
Edna Alberta Burns, T. J. McElree	2	....

Butler-Armstrong District—

E. Z. Peffer, Sadie A. Boyer	•	....
Willis M. Ruby, Jacob Snyder	3	....

SOUTHWEST DISTRICT

Allegheny County

O. Miller, McElhaney 1	5	1900

Armstrong County—

Shelocta, Keller 2	¶0.19	1548
Local Co., Wray 1	¶0.07	3347

Greene County—

H. D. Freeland et al, Fox 1	¶0.01	3216

Indiana County—

Equitable Gas, Heberling 2	•	3866

Washington County—

Equitable Gas, Myers 2	¶0.08	3062

United States Well Completions—*Continued*

East Texas

Anderson County (Cayuga)—
Tide Water & Seaboard, Lutterloh 7 ..... ¶22½ 7434
Rannels 1 ..... ¶60 4090
Franklin County (Talco)—
Humble, Penn-Humble 28..... 390 4287
Penn-Humble 29..... 696 4285
Freestone County (Wortham)—
J. B. Daniel et al, Stubbs 1..... 4 2998
Henderson County (Opelika)—
Lone Star & Shamrock, Turner 1.. ¶49 8287
Rusk County (Wildcat)—
L. O. McMillam (was Sears-Phillips), Pool 1..... 215 4126
Rusk County (New Salem)—
M. D. Bryant et al, Evans 1..... 313 4100
Wood County (Hawkins)—
R. W. Fair et al, Randall 1 (1-ac) 374 4805
Humble, Crisman 1 (151.8-ac).... 27 4923
T. P. Ry. 2 (63½-ac)..... 394 4824
Kilgore Area—
Gilcrease Oil Co., Smith 15.....1200 3567
Houston, Peterson 6.....1500 3681
Magnolia, Griffin 28..... 350 3610
Ed. Pace, Tr., Trip Elder 9..... 500 3568
Trip Elder 12..... 900 3577
Shell, Willoughby 31.....1500 3600
Longview Area—
F. E. Hargraves et al, Reed 3....1200 3764
Stanolind, Davis 18-A.....2000 3580
Superior, Ingram 30.....3000 3679

SALT WATER DISPOSAL
Longview Area—
Magnolia, Everett 35..... • 3787

West Texas

Andrews County (Means)—
Humble, J. S. Means 87..... 783 4538
Sun, Means 2-B..... 971 4545
Andrews County (North Cowden)—
Atlantic & Sun, Holt 5-C..... 482 4496
Andrews County (Emma)—
Cities Service, University 1-D..... 110 4500
Cochran County (Slaughter)—
Atlantic, Boyd-Humble 17.....1331 5060
Honolulu, Igoe-Smith 7..... 790 5000
Mallet 6-A-4 ..... 785 5079
Mid-Continent, Mallet 5-A..... 699 5065
Crane County (Dune)—
Atlantic, University 1-C-18..... 22 3350
Crane County (Sand Hills)—
Gulf, Waddell et al 27.....2517 4561
Crockett County (Wildcat)—
Forest Dev. Corp., Shannon 1..... † 260
Crockett County (Hoover)—
Roger Harris et al, Hoover 2..... 29 1460
Crockett County (World-Powell)—
Armer & Armer, Powell 13-A.... 146 2675
Ector County (Foster)—
Atlantic, Johnson 5-J..... 521 4180
Geo. P. Livermore, Inc., Johnson-Ohio 2-27 ..... 491 4159
Schermerhorn Oil Co., Johnson 14-B 935 4170
Sinclair Prairie, M. Gist 5..... 529 4213
Trinity Drl. Co., Henderson-Humble 4 ..... 648 4304
Ector County (Goldsmith)—
Gulf, Goldsmith 362.....2150 4239
Goldsmith 364 ..... 105 4227
El Paso County (Wildcat)—
Southwest Oil Co., Kinkel Bros. 1 • 3571
Gaines County (Cedar Lake)—
Stanolind, American Warehouse Co. 6 ..... 945 4740
Hockley County (Slaughter)—
Fain & Riner, Slaughter 1..... 707 4999
Honolulu Oil Corp., Mallet 7-B-5..1353 5003
Magnolia, Mallet 6-D.....1123 5000
Mallet 9-G 1269 5003
Mid-Continent Pet. Corp., Mallet 5-B 1265 5034
J. R. Sharp et al, Stallings 2..... 475 4857
Stanolind, Givan 2.....1761 5010
Slaughter 19-A 1466 4995
Texas Co., Cattle Raisers-Neal 1.. 880 5015
Mallet 7-E 1612 5025
Slaughter Unit (6219-ac) 18....1010 4985
Slaughter Unit (6219-ac) 20....1049 4975
Slaughter Unit (6219-ac) 23....1074 5005
Mitchell County (Northwest)—
E. Russell Lloyd et al, Fuller 2.. 86 1723
Pecos County (Abell)—
Magnolia, J. F. McKee 1..... 62 5940
Sinclair Prairie, Heierman 1.....1634 5500
Pecos County (Lehn)—
Samwan Oil Co., Boren-Humble 2 39 1730
Pecos County (Pecos Valley)—
Black-Richardson, Scharff-Blackman 1 (pb to 1680 ft)..... 9 1744
Pecos County (Tobarg)—
Stanolind, Tippett 23-B..... 40 541
Pecos County (Walker)—
J. H. Lewis & Engle, White-Baker 1-B 77 2134
Scurry County (Northwest)—
B. R. & S. Oil Co., Chapman 2-A 140 1752
Scurry County (Sharon)—
R. Y. Oil Co., Burney 1..... 126 2482
Terry County (Slaughter)—
Honolulu Oil Corp., Frazier 8....1873 5005
Upton County (McClintic)—
Geo. E. Farley et al, Damron 1 (pb to 3200 ft)..... 138 3245
Upton County (McCamey)—
T. P. Coal & Oil Co., Lane 44-A.. 160 2152
Ward County—
Sinclair Prairie, Archenhold 28.... 388 3000
Archenhold 29 ..... 385 3026
Winkler County (Halley)—
Shelly, Halley 41..... 448 2878
Winkler County (Hendrick)—
Wm. Hudson et al, Hendrick-Humble 1 ..... 16 2890
Winkler County (Keystone)—
Richardson Oils, Jenkins-Sun 4.... 127 3473
J. R. Sharp et al, Jenkins-Little 3 182 3438
Yoakum County (Wasson)—
Aloco, Miller-Texaco 14-A..... 746 5178
Argo, Comer 7-C.....1082 5170
Deep Rock, Anderson 3..... 242 5245
Plymouth Oil Co., Bennett 3-A.... 243 5267

West Central Texas

Brown County—
Hightower O&R Corp., Hall 1.... • 1773
Coleman County (Wildcats)—
McMillan & Rominger, Wilkerson 1 • 2823
States Oil Corp., Featherston 1.... 394 3600
Sealy-Smith 1 ..... • 3480
Palo Pinto County (Wildcat)—
Hickok & Harry Reynolds, Halsell 1 ..... • 4630
Palo Pinto County—
Palo Pinto O&G Corp., Strawn Coal Co. 27 ..... • 3325
Shackelford County (Wildcat)—
J. B. Young et al, Elliott 1..... • 667
Shackleford County—
Eason Oil Co., Nail 1..... • 1621
Hickok & Harry Reynolds, Swenson 3 ..... 71 1516
R. H. Roark et al, Elliott 7..... 6 829
E. H. R. Sabens et al, Shotwell 2.. 54 1563
Stephens County—
Wittmer O&G Prop.-Knight-Ewing, McKelvin 1-a 384 3549
Taylor County (Wildcat)—
McQueen & Clevenger, Drummond 1 • 2435

Texas Gulf Coast

Brazoria County (Old Ocean)—
Abercrombie & Harrison, BRLD C-3, ... 410 10858
Texas Co., Walker 1 (wo)..... 522 10990
Fort Bend County (North Thompson)—
H. M. Naylor, Hampil 8..... 158 7927
Hardin County (Saratoga)—
Rio Bravo, Fee C-538..... • 1695
Harris County (Dyersdale)—
Jack Frazier, Haas 1..... 124 4080
Harris County (South Houston)—
Stanolind Drilling Dist. 6, Well 2 210 4032
Liberty County (Martha)—
Stanolind, Gordon 1..... • 8202
Matagorda County (Lucky)—
Stanolind, Doman 1..... • 10000
Polk County (Segno)—
Humble, Kirby B-38..... 331 8186

Southwest Texas

CORPUS CHRISTI DISTRICT

Brooks County (Alta Mesa)—
Standard of Texas, Garcia 5-2.... 31 2665
Goliad County (LaBahia)—
Hundred & One, Lutenbacher 1, outpost ..... • 5808
Jackson County (LaWard)—
Collins & Co., McCrory-Westhoff 1-B 600 5224
Jackson County (Lolita)—
Barnsdall, Lazarus 6..... 350 5279
Magnolia, M. Mitchell 26..... 500 5293
Jackson County (West Ranch)—
American Liberty, L. Ranch 9.... 450 5940
Louis Crouch, L. Ranch 4..... 500 5500
Magnolia, Davis 1..... • 5808
West 177-A 750 5560
Stanolind, L. Ranch 10..... 450 5512
Jackson County (West Ganado)—
Pure, Cravens 2..... 400 6245
Jim Wells County (Ben Bolt)—
Bridwell, Smith 6 ..... 250 5482
Jim Wells County (Wildcat)—
Bridwell, Hinnant 1 ..... • 5603
Live Oak County (Ezzell)—
Swearingen & Miller, Fee 1..... • 1560
Nueces County (Minnie Bock)—
Tom Graham, Rutland 2..... 65 3824
Wellington, Howze 2 .....¶2.5 & 50 6000
Nueces County (Bentonville-King)—
Southern Minerals, King 10-A.... 400 5610
Nueces County (Luby)—
Stanolind, Spessard 37..... 500 5189
Nueces County (Stratton)—
Bay-Tex, Union Central 15..... 500 6810
Southern Minerals, Stratton 22.... 350 6634
Stratton 23 ..... 400 6703
Nueces County (Wildcats)—
Osborn & Mid-Continent, Burow 1 (new pool).....¶.5 & 12 7512
Premont, Ross 1..... • 7278
Refugio County (McFaddin)—
Norsworthy, Fagan 1..... 150 5685
Refugio County (Tomoconnor)—
Quintana, Heard 47.....1500 5925
Refugio County (Woodsboro)—
W. F. Morgan, Boenig 1.....¶1 & 25 7200
Refugio County (Wildcat)—
Renwar Oil Corp., Dodson 1..... • 6508
San Patricio County (Midway)—
W. F. Morgan, Schmidt 2..... 500 6081
Victoria County (Coleto Creek)—
Plummer, Terrell 5-A..... 250 4735
Victoria County (Cologne)—
Houston, Hornstein 1-A..... 450 4835
Victoria County (E. Telferner)—
Houston, Carpenter 1..... ¶8 6060
Victoria County (Keeran)—
Barnsdall, Keeran 12..... 350 6305

OLD WELL DEEPENED
Nueces County (Stratton)—
S. E. W., Stelzig 1, otd 7015..... • 7510

LAREDO DISTRICT
Duval County (Casa Blanca)—
Adelon, Martin 8-C.....23½ 1146
Texas, Duval 47.....¶.318 1066
Duval 48 .....¶.420 1054
Duval County (Lundell)—
Government Wells, Lundell 53.... 75 1567
Duval County (Piedre Lumbre)—
Magnolia, Duval 26-203..... 100 2133
Duval County (Wildcats)—
H. Coquat, Southland 1..... • 5056
Hiawatha, Parr 1-A (formerly 32) (new field) 250 5040
H. H. Howell, Parr 1..... • 5005
Jim Hogg County (Colorado)—
Humble, King-Colorado 25-B..... 350 3039
Starr County (Rincon)—
Continental, Slick 50-A.....¶.650 4298
Slick 57-B 500 4251
Slick 71-B 375 4448
Slick 93-B 550 4139
Slick 94-B 550 4138
Starr County (N. Rincon)—
Sun, M. Saenz 4..... 500 4745
Starr County (Sun)—
Humble, Montalvo 2..... 350 5563
Starr County (Wildcat)—
Graham Bros., Garza 1..... • 2006
Webb County (West Cole)—
Houser & Campbell, Benavides 1.. • 2700
Zapata County (Escobas)—
Dunlap, Garcia 8-C..... • 1075

OLD WELL DEEPENED
Zapata County (Lopeno)—
R. M. Moore, Vela 1, otd 2508.... • 2972

SAN ANTONIO DISTRICT
Caldwell County (Tenney Creek)—
J. P. Griffith, Norcutt 1..... • 3001
Guadalupe County (Day)—
Pegg Bros., D. M. Day 1..... • 3030
Lee County (Wildcat)—
John Camp, Hardin 1..... • 2264
Wilson County (Wildcat)—
C. G. Newton, Eliza Heirholzer 1.. • 1060

North Texas

Archer County (Hull-Silk)—
J. A. Chapman et al, Wilson 5.... 129 3803
Archer County (K-M-A)—
H. A. Schaeffer Oil Co., Ferguson 6 ..... 799 3884
Archer County (Scotland)—
Southern Pet. Explo., Wilson 2-A (new pay) 120 4032
Archer County (Wildcats)—
T. A. Norwood et al, Cross 1..... • 1439
W. F. Palmer et al, Koester 1.... • 1157
Archer County—
Henry Grace et al, Wilson 6..... 136 1532
W. T. Hutchinson, Jr. et al, Wilson McCrory 2-B ..... • 1556
T. A. Jirik et al, Tidwell 7..... • 1111
King Oil Co., Wilson 27-B..... 10 1547
Pet. Producers Co., Griffith 5.... 8 1249
Phillips, Little-Novella 7..... 139 1330
Clay County (Wildcat)—
L. T. Burns et al, Wynn 2..... • 1891
Clay County (Scotland)—
Shell, E. Henderson 3..... 231 3256
Mullins 5 ..... 864 3229
Clay County—
G. W. Graham et al, Hansard 9.... 96 1177
G. Golden et al, 1st Texas Jt. Stock Bank 1-B..... 20 1137
Metzner & Wallace, Dallas Jt. Stock Bank 5..... • 365
Perkins-Cullum, Taylor 1-B..... 108 1060
Stayton Oil Co., McGregor 11..... 43 1194
Sussex Oil Corp., Glasgow 29..... 88 1081
Hamilton 3 ..... 108 1136
Texas Co., George 5..... 9 1141
M. Stephenson 2..... 128 1150
Cooke County (Walnut Bend)—
Sinclair Prairie, Cox 5-B (pb to 4020 ft) 302 4927
Ramsey 9 ..... 324 4768
Ramsey 11 ..... 221 4815
Cooke County—
Falls Ref. Co., B. Voth 6 (pb to 1550 ft) ..... ¶10 1727
Kingery Bros. Drl. Co., Trubenbach 7 ..... 18 1315
Trumter Pet. Corp., Stacey 14-A.. 20 765
Stacey 11-B 17 770
Jack County—
T. C. Jones et al, Roach 1..... 8 486

COMPLETIONS—Continued

Company, Well and Location	Init. Prod. Bbls.	Depth
Montague County—		
Claymont Oil Co., Bouldin-Crow 3	10	818
J. M. Hawley et al, Bouldin-Crow 10	6	825
Montague County (Hults-Owens)—		
Larry Hults-Tom Owens, Summers 1 (pb to 6056 ft)	2364	7239
Wichita County (K-M-A)—		
G. W. Cooper et al, Waggoner Bros. 58	304	3884
Bishop Oil Co., Waggoner Bros.-Keller 2-D	518	3893
Wichita County (K-M-A Ellenberger)—		
Buffalo Oil Co., Ferguson 5-E	864	4325
Ferguson 13-E	648	4326
Deep Oil Dev. Co., Bradley 2-E	1044	4342
Wichita County—		
Akin-Dimock-Costley, Dodson 1-C.	*	1350
Perry Browning et al, Simpson 2	65	1766
Simpson 3	52	1768
J. W. Carter et al, Roller 2	*	756
Coppock & Coleman, Warren 12	88	1759
C. W. Griffith et al, Baker 1	*	680
W. B. Omohundro et al, Ramming 1	*	1302
Wichita County (Wildcat)—		
Akin-Dimock-Costley, Jackson 1	*	1660
Wilbarger County (Fargo)—		
Amerada, Smith 1	576	3975
Young County—		
P. C. Burns et al, Bloodworth 1	*	871
L. T. Burns et al, Larimore 7	*	887
Walter H. Gant et al, Lowery 1	335	4189
Graham Roy. Co., Keen 3	*	907
Pemeta Oil Co., Swain 12	*	720
M. R. Stipe et al, Roach 1	*	1034

Texas Panhandle

Gray County—		
Cady-Conner & Crenshaw, Holmes 5	206	3264
King Oil Co., Durkin-Rice 10	139	3280
Magnolia, C. S. Barrett 12	105	3295
Skelly, Schafer 127	426	3306
W. H. Taylor Oil Co., Taylor 5-B	396	2895
Hutchinson County—		
J. E. Crosbie, Pitts 41	391	2930
Gibson Oil Corp., Jamieson 2	181	2955
Phillips, Cockrell 64	177	2887
Cockrell 77	306	3078
Texas Co., J. W. Moore 11	198	3180
J. K. Quinn 18	146	3091
Wheeler County—		
Murchison & Fain, Grogan 2	*	1394
Portman & Jenkins, Patterson 2	115	2094
T. G. Williams et al, Bentley 6	11	2435
Bentley 7	12	2473

West Virginia

Boone County—		
Pond Fork O. & G., Fee 18	¶0.38	4160
Cambridge Gas, Price 1	¶0.21	3530
Braxton County—		
W. H. & L. E. Mossor, Perrine 1	¶0.13	2582
Cabel County—		
Cumberland Gas Corp., Jefferson 1	¶0.12	3174
Clay County—		
Virginian Gas & Oil Corp., Brown & Goshorn V-1296	5	1916
Hancock County—		
R. J. Braden Co., Hewitt Hrs. 27	5	918
Jackson County—		
Godfrey L. Cabot, McLean 8	¶2.15	5334
Kanawha County—		
Columbian Carbon, Wickline 1	¶0.57	5033
Pure Oil, Shonk Land 1	¶0.03	2073
Lincoln County—		
Sweetland Land & Mineral, Fee 2	¶0.16	3603
Marion County—		
Monroe & Laughlin, Moffett 1	15	3060
Putnam County—		
Reishman O. & G., May 2	¶0.17	3573
Tyler County—		
McIntyre-Wright-Edgar, Eastham 2	3	2100
Upsher County—		
Pitts. & W. Va. Gas, Higginbottom 7786	¶0.28	4469
Wetzel County—		
Carnegie Nat. Gas, Barr 5	¶0.28	2050

Wyoming

Campbell County (Rocky Point)—		
Continental, Knapp 1, cne sw sw 4-56n-69w	*	6105
Carbon County (Wertz)—		
Sinclair-Wyoming, Wertz 20, 7-26n-89w	515	6215
Watrona County (Cole Creek)—		
General, (State) 3-16-s, nw sw nw 16-35n-77w	200	4697
Sublette County (LaBarge)—		
Marvel Oil Co., Government 1-A, ne 33-27n-113w	8	1191
Weston County (Osage)—		
Wyoming O. & G. Co., Fee 17, csl se sw 19-46n-63w	24	1400

W. J. WILLIAMS has been transferred from the Oklahoma City Division office of Eastman Oil Well Survey Corporation and made chief engineer of the Casper, Wyoming, office, in the Rocky Mountain Division.

WILDCAT REPORT
New Starts and Completions

ARKANSAS
FIRST REPORT

Union County—Atlantic & Phillips, Union S. M. Co. 1, ne nw 15-17-18, lcn.

CALIFORNIA
FIRST REPORTS

Kern County—Signal O. & G. Co., and Vedder's V-S 1; 32-27-28., Northwest Mountain View area lcn. Western Gulf's Symons 12-7; 7-32-27 lcn.

Orange County—Texas Co.'s McNally A-1; ne Valley View rd. and La Mirada rd., West Coyote area lcn.

Santa Barbara County—O. C. Field Gasoline Co.'s Carreaga 1; 31-8-33, Lompoc area, rig.

Ventura County—Glen Ogles Oil Co.'s Lisk 1; 21-5-18, Piru area, lcn.

COMPLETIONS

Glenn County—Holly Sugar Co.'s No. 1; ne St. Johns Rd and Hamilton-Coluso Hwy, Orland area, abnd 4349 ft.

Ventura County—O. C. Field Gasoline Co.'s Stendel 24-1; 24-9-33, Cat Canyon area, abnd 3363 ft.

COLORADO
FIRST REPORT

Logan County—Mutual Oil Co., State 1, sw sw 32-7n-51w, Sterling district, spd.

ILLINOIS
FIRST REPORTS

Clay County—W. C. McBride, Inc.'s Drake 1, se sw ne 34-4n-7e, lcn.

LaSalle County—Elko Oil & Gas Co.'s Duncan 1, se c ne nw 27-33n-1e, dr.

Macoupin County—Dortomedge Oil Co.'s Hunsinger 1, sw c nw ne 25-7n-7w, lcn.

Marion County—Tex Harvey's Kagy 7-B, ne sw se se 33-3n-2e, dr. Swan King Oil Co.'s Kotva Heirs 2, sw sw nw 36-4n-2e, dr.

Randolph County—Holst Oils Corp.'s Faulkenheim 1, se ne nw ne 12-5s-7w, dr.

Richland County—Sinclair Wyoming's Logan 1, nw ne se sw 18-3n-14w, dr.

Shelby County—Carter's Leach 1, se sw sw 5-9n-4e, lcn.

Wabash County—Geo. Key, Jr.'s Wheatly 1, c e½ ne se 3-1s-13w, lcn. Frank Tatum's Alka 1, ne sw sw 34-1s-13w, dr.

Wayne County—Freeman Oil Co.'s Beaird et al 1, c e½ ne sw 22-2n-8e, dr.

COMPLETIONS

Fayette County—Penn-Oil & Gas Corp.'s Sloan 1, se se ne 4-8n-3e, abnd 1417 ft.

Gallatin County—Blackstock et al's Cox 1, nw nw sw 2-8s-9e, new discovery, 40 bbls oil & 300 bbls water, McClosky 2852 ft, td 3020 ft.

Jasper County—J. P. Gordon's Snyder 1, c w½ se nw 36-7n-10e, abnd 2720 ft.

Jefferson County—Kingwood's Sledge 1, c n½ se sw 20-1s-4e, abnd 2886 ft. Kingwood's 1st Nat. Bank of Woodlawn 1, se ne sw 35-2s-1e, extension Woodlawn pool, 960 bbls oil, Bethel 1952 ft, td 1972 ft. J. A. Burnhan's Pearch 1, c w½ se sw 35-4s-3e, abnd 3132 ft.

Lawrence County—Walter Payne's Payne 1, nw sw nw 20-3n-11w, abnd 1855 ft.

Marion County—Max Conrey's Rogier 1, c nw se se 4-3n-1e, abnd 1518 ft. Austin Oil's P. F. Smith 1, se se sw 12-3n-2e, abnd 2568 ft. Goodson et al's Smith 1, ne nw ne sw 25-4n-1e, abnd 1930 ft. Adams Oil & Gas' Pugh 8, se sw ne 29-4n-1e, new hor Patoka pool, Rosiclare 1566-83 ft, td 1583 ft, 10 bbls oil & 3 bbls water.

Richland County—R. Weiner's Carroll Smith 1, c w½ ne nw 5-2n-9e, abnd 3120 ft.

St. Clair County—Magnolia's Probst 1, se se se 2-2s-9w, abnd 1450 ft.

IOWA
COMPLETIONS

Fremont County—J. B. Barnes et al's Lucas 1, sw ne se 28-70n-43w, 2 mi nw Thurman, top Mississippi 855 ft, Hunton 1306 ft, abnd 1882 ft.

Guthrie County—F. E. Hunt et al's McConnell 1, nw se se se 11-78n-30w, Mississippi 384-855 ft, abnd 1555 ft Devonian, no shows.

Taylor County—Smythe, McLaughlin, Comfort et al's Hook 1, c ne nw 18-69n-35w, 7 mi ne Clarinda, top Bartlesville 1342 ft, Mississippi 1495 ft, abnd 1537 ft.

INDIANA
FIRST REPORTS

Gibson County—R. D. Brown's Bailey 1, nw nw se 10-2s-12w, dr.

Martin County—D. L. Norris et al's Adams 1, ne ne sw 35-2n-5w, dr.

Posey County—Brown, Nelson & Eslick's Reichart 1, se nw se 25-7s-15w, lcn.

Spencer County—Troy Refining's Huffman 1, nw se se 11-7s-7w, lcn.

Vigo County—Krauss et al's Hollenbeck 1, c sw ne 14-10n-8w, lcn.

COMPLETIONS

Perry County—C. E. Dice's Stroble 1, e½ nw se nw 5-6s-3w, abnd 622 ft.

Starke County—J. L. Black et al's Kennedy 1, nw sw ne 26-33n-2w, abnd 1160 ft.

Vanderburgh County—Yakey et al's Wiley 1, sw sw ne 1-6s-14w, abnd 1338 ft. Whisenant & Trenchard's McFaddin 1, sw nw sw 16-6s-14w, extension New Harmony pool, Cypress 2481-2503 ft, pb 2503 ft, 10 bbls water, 33 bbls oil, 2820 ft.

KANSAS
FIRST REPORTS

Barber County—Deep Rock Oil Corp.'s Skinner 1, c w½ nw sw 21-31-14w, dr.

Ellis County—Darby Pet Corp.'s Giebler 1, c e½ nw se 27-13-20w, dr.

Pratt County—Skelly Oil Co.'s Ganaway 1, c e½ ne se 30-28-12w, mim.

Russell County—Barwick & Davis et al's Shrader 1, c s½ se se 21-12-14w, dr.

COMPLETIONS

Greenwood County—Brazil et al's Hillard 1, nec nw 27-27-11e, Severy area, abnd 100 ft.

Jefferson County—Archie et al's Schroeder 1, c se sw 28-9-20e, 1 mi north extension McLaughlin pool, sand 1442-68 ft, Mississippi 1468-72 ft, pb 1468 ft, shot 40 qts 1442-68 ft, 20 bbls, 21.3-gr, 350,000 cu ft gas.

Norton County—Cities Service Oil Co.'s Federal 1, sec 15-4-23w, 13 mi w Van Patton pool, top Anhydrite 1980 ft, Ft. Riley 2780 ft, Topeka 3263 ft, Lansing 3493 ft, Granite Wash 3776 ft, Granite 3792 ft, abnd 3794 ft.

Phillips County—Lario O. & G. Co. et al's Lynch 1, c s½ se sw 24-4-20w, 8 mi ne Ray pool, Topeka 2935 ft, Lansing 3168 ft, Base Kansas City 3381 ft, top Arbuckle 3470 ft, Basal sand 3812 ft, Granite 3843 ft, abnd 3848 ft.

Reno County—Simpson Oil Co. et al's Snowbarger 1, sw se ne 21-23-10w, Peace Creek pool disc, Lansing 3310 ft, Mississippi 3620 ft, Misener 3772 ft, Viola 3773 ft, td 3789 ft, 3000 bbls, 41.5 gr.

Stafford County—Stanolind O. & G. Co. et al's Black 1, c e½ ne sw 25-24-12w, 4 mi w Zenith pool, Anhydrite 645 ft, Topeka 3020 ft, Lansing 3503 ft, Kinderhook 3853 ft, Viola 3929 ft, Simpson 4029 ft, Arbuckle 4098 ft abnd 4140 ft.

KENTUCKY
FIRST REPORT

Grayson County—Roscoe Evans' Jake Smith 1, 10-M-34, lcn.

COMPLETIONS

Henderson County—Jack Cox's Allen 1, 6-P-26, abnd 550 ft.

Muhlenberg County—Tatum's Adkins 1, 11-I-27, abnd 2064 ft.

Ohio County—Steele & Miller's Carson 1, 17-M-31, abnd 203 ft. Wilbur Wilkie et al's Westerfield 1, 25-N-31, 866 ft, td, Jet 830-50 ft, 35 bbls oil.

Union County—Sun & Ky. Nat. Gas' Blue 1, 6-N-21, abnd 2835 ft.

SOUTH LOUISIANA
FIRST REPORTS

Acadia Paris—Danciger's Thibodeaux 1, sec 73-7s-2e, West Church Point area, lcn.

La Fourche Parish—Texas Co.'s Lafourche A-1, Hackberry Bay area, 32-19s-24e, lcn. Texas Co.'s Lafourche Basin Levee Board 1-B, 31-19s-24e; Hackberry Bay area, lcn.

St. Helena Parish—Humble's Great Southern C-1, Greensberg area, 20-1s-5e, lcn.

COMPLETIONS

Beauregard Parish—Humble's Edgewood 1, Abbie Joe prospect, 25-6s-10w, show at 11,536-540 ft before sticking pipe, junked 11,541 ft.

St. Landry Parish—W. V. Bowles and J. A. Hafner's Hidalgo 1, 26-6s-3e, abnd 8532 ft.

Terrebonne Parish—Sinclair Prairie's Duplantis 1; Bourg prospect, 13-18s-18e, abnd 11,020 ft.

NORTH LOUISIANA
FIRST REPORTS

Madison Parish—H. L. Hunt, Ayers 3, ne se 18-15n-10e, dr 210 ft.

Natchitoches Parish—A. F. Carter, Culpepper 1, sec 36-8n-7w, mat.

COMPLETIONS

Caldwell Parish—Big West Drlg. Co., Lowe 1, c se se 36-12n-3e, 5½ csg 2850 ft perf Wilcox 2754-59 ft, made 15 mil cu ft gas daily, 4009 ft.

MICHIGAN
FIRST REPORTS

Lake County—Voorhees Drilling Co.'s Fee 1, c ne nw, 14-20n-11w, dr.

Macomb County—Devonian Testing Co.'s Kraft 1, nw nw ne, 27-2n-12e, dr.

Muskegon County—H. C. Nelson's Slocum 1, c s½ ne se, 33-12n-17w, rig.

COMPLETIONS

Allegan County—Sprenger Bros.' Warning 1, sw sw sw 8-1n-15w, Traverse 1200 ft, abnd 1204 ft.

Oceana County—Welsh Oil Co.'s Branstrom

1, sw sw sw, 12-13n-15w, Traverse 2119 ft, abnd 2879 ft.

Osceola County—C. L. Maguire, Inc.'s Watson 1, c e½ se nw, 1-17n-9w, Dundee 3776 ft, abnd 3950 ft.

Shiawassee County—O. A. Daniel's Garrity 1, ne ne ne, 27-5n-2e, abnd 1825 ft.

MISSISSIPPI

FIRST REPORT

Copiah County—Sun, Ainsworth 1, ne se 17-9n-7e, mat (10,000-ft test).

COMPLETIONS

Montgomery County—Henderson Oil Co., School Board 1, se ne nw 16-19n-6e, elev 434 ft Midway, 1115 ft; Selma chalk, 1825 ft; Eutaw (Blossom), 2581 ft; Tuscaloosa (Woodbine), 2885 ft, abnd 4280 ft.

Stone County—Danciger, School Board 1, c se sw 16-2s-11w, elev 212 ft, Claiborne 2385 ft; Tallahatta 2585 ft; Wilcox 2640 ft; Selma chalk 5715 ft; Eutaw 6923 ft; Tuscaloosa 8005 ft, abnd 8522 ft.

MISSOURI

COMPLETION

DeKalb County—George W. Moore et al's McQuate 1, ne sw sw 11-57n-31w, 9 mi s Maysville, Hunton 1383 ft, abnd 1500 ft.

NEBRASKA

FIRST REPORT

Nemaha County—J. E. Palensky et al's Casey 1, c nw ne 7-5n-13e, lcn.

NEW MEXICO

COMPLETIONS

Chaves County—Frank Montgomery et al's Purcell 1-B, c w½ sw nw 13-11s-26e, elev 3588 ft, abnd 2202 ft.

Eddy County—Sanders Bros. et al's De-Temple 1, c sw sw 27-19s-31e, elev 3467 ft, abnd 2590 ft.

Lea County—Fullerton Oil Co.'s State 1, c ne se 18-16s-33e, elev 4256 ft, top anhydrite 1337 ft, salt 1537 ft, red sand 3582-3605 ft, lime 4245 ft, abnd sul w 5059-60ft.

OKLAHOMA

FIRST REPORTS

Beaver County—Laughlin et al's Fee 1, c w½ se 13-6n-21e, dr.

Jefferson County—Danciger et al's McClain 1, c nw nw ne 4-4s-4w, mim.

Kay County—Deep Rock et al's Midgley 1, nwc se 33-28n-4e, dr.

Okfuskee County—Shell's Heffner 1, se nw nw 17-11n-9e, dr. W. C. McBride's Long 1, sec sw 17-12n-10e, dr.

Osage County — Anderson-Prichard's Osage 14, sw ne sw 32-28n-8e, dr.

Stephens County—E. R. Perkins' State 1, c ne ne nw 16-3s-8w, dr.

COMPLETIONS

Creek County—Vierson O. & G. Co. et al's Harper 1, nwc ne 16-13n-7e, 6 mi n Paden pool, Hunton 4039 ft, Sylvan 4065 ft, Viola 4151 ft, Dense 4179 ft, Dolomite 4186 ft, First Wilcox 4199 ft, abnd 4210½ ft.

Garfield County—Gulf's Skilling 1, c n½ ne nw 8-23n-4w, 4 mi nw North Garber pool, Checkerboard 4781 ft, Big Lime 4924 ft, Cherokee 5090 ft, Mississippi 5474 ft, Woodford 5935 ft, Misener 5977 ft, Viola 5997 ft, Upper Simpson 6046 ft, First Wilcox 6064 ft, Lower Simpson Dol. 6101 ft, Second Wilcox 6153 ft, abnd 6339 ft.

Hughes County—Gardner-Breen et al's Cahill 1, c e½ ne sw 2-6n-8e, 4 mi e Fish pool, sd 749-772 ft, show gas, sd 809-12 ft, lime 910 ft, sd 995-1035 ft, hfw 1281 ft, abnd 1358 ft.

Garvin County—Alma Oil Co.'s Ringer 1, nwc 2-3n-3e, 2 mi s Stratford, Base Simpson 1940 ft, sd 2050-63 ft abnd 2260 ft.

Kay County—Zephyr Drlg. Co.'s Gingerich 1, swc se 29-28n-1w, 2 mi n Blackwell area, Pawhuska 1675 ft, Tonkawa li 2320 ft, Tonkawa sd 2376 ft, Layton 2795 ft, Peru 3130 ft, abnd 3679 ft Wilcox sd.

Noble County—J. M. Henry et al's Schultz 1-A, ne sw ne 29-23n-1w, 4 mi se Billings pool, abnd 2525 ft.

Payne County—T. N. Berry et al's Fee 1, nw ne sw 13-18n-3e, Northeast Mehan pool disc, Oswego 3365-3405 ft, Skinner 3573 ft, Pink li 3610 ft, Bartlesville 3642 ft, Mississippi 3858 ft, Woodford 3950 ft, Sylvan 3989 ft, Viola 4014 ft, Dense 4039 ft, Dolomite 4058 ft, First Wilcox 4065 ft, Second Wilcox 4100 ft, td 4103½ ft, 147 bbls.

Seminole County—P. J. McIntyre et al's Hanning 1, swc ne 2-9n-7e, 1½ mi n West Bethel pool, Calvin 2081-2310 ft, Basal Wewoka 2103 ft, Senora sd 2449-2560 ft, Earlsboro 2920 ft, Brown li 3295 ft, Gilcrease 2465 ft, Unconformity 3600 ft, Wapanucka 3636 ft, Cromwell 3642 ft, abnd 3650 ft.

WEST TEXAS

FIRST REPORTS

Andrews County—Fuhrman Pet. Corp.'s Seidel 1, sec psl sec 6, blk A-42, rur.

Dawson County—Stanolind's Scanlan Est. 2, c se se E. L. Ry. sec 87, blk M, sp & sd.

COMPLETIONS

Crockett County—Forest Dev. Corp.'s Shannon 1, swc lot 20, League 2, Archer csl, jkd 260 ft, skid 20 ft.

El Paso County—Southwest Oil Co.'s Kinkel Bros. 1, nec sec 237, S. F. No. 7232, abnd 3571 ft.

NORTH TEXAS

FIRST REPORTS

Clay County—Sinclair Prairie's Scheer 1, se sw blk 47, Orange csl, 1½ mi s Henrietta, rur deep test. L. T. Burns et al's Wynn 3-S, near c blk 34, H. Williams sur A-704, sp. Norwood & Waggoner's Huff 1, 1937 ft from e and 2957 ft from s lines J. Bradshaw sur A-17, lcn.

Denton County—D. S. Hager & Jones Drl. Co.'s Waide 1, sec of w-160-ac J. Pearson sur A-1050, sp.

Young County—Kerlyn Oil Co.'s E. Taylor 1, c n½ se nw BS&F sec 2, lcn 4400-ft test.

EAST TEXAS

FIRST REPORT

Franklin County—W. B. Hinton et al's Hargrave 1, 2500 ft from n and 972 ft from m/e/w line S. P. Ry. sur, A-468, rur Paluxy test.

COMPLETION

Rusk County—L. O. McMillan (was Ross Sears-A. O. Phillips') Pool 1, nec 73-ac tr, Geo. May sur, 6 miles sw Henderson, new pool, elev 412 ft, top Pecan 3107 ft, Austin chalk 3837-4043 ft, Woodbine perforations 4054-62 ft, total depth 4126 ft, 215 bbls 39.4-gravity ¼-in choke.

WEST CENTRAL TEXAS

FIRST REPORTS

Brown County—A. O. Turner et al's J. D. White 1, 1320 ft from n and 330 ft from w lines E. Ferguson sur 110, lcn.

Coleman County — States Oil Corp.'s J. Hughes 1, near c GH&H Ry. sec 34, blk 2, lcn.

Comanche County—Guyle Greynolds et al's Shoults 1, nwc sec 30, Lampasas CSL blk 34, sp.

Eastland County—R. H. Gaddy et al's Vestal 1, swc Sam Samon sur, lcn.

Jones County—Fain - McGaha Oil Corp.'s Hollis 1, se ne nw T&P sec 26, blk 15, lcn.

Shackelford County—J. B. Young et al's Elliott 2, ne nw ne B.O.A. sec 45, lcn.

COMPLETIONS

Coleman County—McMillan & Rominger's Wilkerson 1, GH&H Ry. sec 3, blk 2, top Bend 2787 ft, abnd 2823 ft. States Oil Corp.'s Featherston 1, nwc M. J. Goble sur A-118, elev 1958 ft, Gray sand 3576-81 ft and 3585-99 ft, shale to 3600 ft, flowed 263 bbls oil natural 16 hrs, new pool; Sealy-Smith 1, sec sw GH&H sec 45, blk 2, abnd 3480 ft.

Palo Pinto County—Hickok & Reynolds' Halsell 1, abnd 4630 ft.

Shackelford County—J. B. Young et al's Elliott 1, se nw sw BOA sec 42, abnd 669 ft.

Taylor County — McQueen & Clevenger's Drummond 1, swc T&NO sec 1, elev 1921 ft, abnd 2435 ft.

NORTH TEXAS

COMPLETIONS

Archer County—Ted Norwod et al's Cross 1, nec se TE&L sec 2491, abnd 1439 ft. W. F. Palmer et al's Koester 1, near c nw TE&L sec 1810, abnd 1157 ft. Southern Pet. Explo. Inc.'s Wilson 2-A, near swc lot 2, ATNCL sec 73, new and shallower pay Scotland pool, Strawn 4016-32 ft, flowed 30 bbls 6 hrs 12/64-in.

Clay County—L. T. Burns et al's Wynn 2, nec se lot 34, H. Williams sur A-074, dry sand 1871-80 ft, abnd 1891 ft.

Denton County—D. S. Hager et al's Koenig 1, 1492 ft from e and 457 ft from s lines B. F. Perry sur A-1277, abnd 1929 ft.

Wichita County — Akin - Dimock - Costley's Jackson 1, 1715 ft from n and 750 ft from e lines J. Walker sur A-327, abnd 1660 ft.

SOUTHWEST TEXAS

FIRST REPORTS

Atascosa County—Lester Foran, Tr.'s Bowen 1, W. Moore sur 895, 1 mi w Pleasanton, dr 500 ft on 1000-ft contract.

Guadalupe County—J. O. Rail's Zuehl 2, C. Duran sur, near New Berlin, prep to deepen from 600 to 1300 ft.

Jackson County—J. G. Mayo's First Nat'l Bank of Robstown 1, lot 10, McCrory sur, near Vanderbilt, loc for 7000-ft test. Gulfboard et al's Zapalac 1, blk 24, Bennett sur, V. Garcia gr, 1 mi ne LaSalle, lcn 6500-ft test.

Live Oak County—C. H. Callaghan, Tr.'s Smith 1, Alcantrata sur, 2½ mi ne Sunniland, loc for 1275 ft test. Joe Stelzig et al's Everett et al 1, lot 3408, blk 72, Simmons sub, 7 mi sw Simmons City, loc 2100 ft test.

Milam County—R. D. Kirkland's Graves 1, Robertson sur, 2½ mi w Sharp, loc 2000-ft test.

Refugio County—Roland S. Bond's E. W. Bartholomew 1, sec 31, 3 mi nw Bayside, dr 350 ft, 7000-ft test.

Starr County—T. E. Stephens' Gonzales 1, sh 62, por 71 and 72, 12 mi nw Roma, prep to mi for 4000-ft test. Sun's Yturria 1, por 100, 16 mi e Rio Grande City, sp on 5500-ft test.

Webb County—Grant Adami 1, sec 338, 1½ mi sw Adami field, dr 772 ft.

Williamson County—Stolley & Mills' Burkhart 1, H. Owen sur, 9 mi s Thorndale, loc 2200-ft test.

COMPLETIONS

Duval County—H. Coquat et al's Southland 1, sec 3, Ball sub, 2 mi sw Sweden, abd 5056 ft. Hiawatha's Parr 1-A (was 32), San Andres gr, comp 5040 ft, flowed 169 bpd 43 gr oil ¼-in ch tp 200 cp 1000, perf 4915-18 w/10 shots, water 20% gor 155-1. Opens E. Benavides field. Well later being reworked to kill water. H. H. Howell's Parr 1, sec 113, 5 mi ne San Diego, abnd 5005 ft.

Goliad County—Hundred & One Oil Co.'s Lutenbacher 1, Goliad gr, LaBahia pros, abnd 5805 ft.

Jim Wells County—Bridwell Oil Co.'s Hinnant 1, Los Presenos de Arriba gr, 1½ mi n Alice, abnd 5603 ft.

Lee County—John F. Camp's Hardin 1, Nantz Lge, 8 mi n Elgin, abnd 2264 ft in chalk.

Nueces County—Osborn & Mid-Continent's Burow 1, lot 69, Pauls sub, 2 mi ne Banquette, comp 12 bpd 58.6 gr dist ¼ ch tp 500 cp 600, perf 6712-14 ft with 8, no water gor 6500-1, td 7512 ft. Either opens new field or extends Agua Dulce 2 miles northeast. Premont Pet. Co.'s Ross 1, sec 119, 2½ mi se Bishop, abnd 7278 ft. SEW Oil Co.'s Stelzig, sec 196, outpost at Stratton, deepened fr 7015 to 7510 ft, abnd.

Refugio County—Renwar Oil Corp.'s Dodson 1, sec 38, 3½ mi se Woodsboro, abnd 6508 ft.

Starr County—Graham Bros.'s Garza 1, 7 mi n Roma, abnd 2006 ft.

Webb County—Houser & Campbell's Benavides 1, sec 664, n W. Coe field, abnd 2700 ft.

Wilson County—C. G. Newton's Hierholzer 1, Salinas sur, 15 mi w Floresville, abnd 1060 ft.

TEXAS GULF COAST

FIRST REPORTS

Harris County—Traders Oil Co.'s J. M. McDade 1, on 20-ac tract formed by Lots 77, 78, 79 and 80, Forrest Acres, Nicholas Brady sur 8 mi ne of Houston, frio test to 4100 ft, moving in.

Matagorda County—W. S. McDaniel's Howard 1, in blk 14, L. Ramey lge, lcn.

Montgomery County—H. C. Cockburn's Bender 1, Tamina area, Montgomery Co. School Land sur, spudded.

Polk County—Pan American's Texas Long Leaf B-1, 2½ mi e of Goodrich in Augustin Viesca sur, lcn.

WYOMING

COMPLETION

Campbell County—Continental and Texas Gulf Production Corp.'s Knapp 1, cne sw se 4-56n-69w, abnd 6105 ft.

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MEN IN THE INDUSTRY'S NEWS

R. L. BLAFFER, chairman of the board of Humble Oil & Refining Company, retired from active service August 4, one day before his 65th birthday which is the automatic retirement age for the company. Blaffer, a native of New Orleans, moved to Beaumont about the turn of the century and become associated with W. S. Farish, now president of Standard Oil Company of New Jersey, in 1902. This was in the early days of the famous Spindletop oil boom, and the firm of Blaffer & Farish prospered to a considerable degree and was one of the organizations that went into the formation of Humble Oil & Refining Company when it was organized in 1917. Blaffer was one of the original organizers, directors and vice presidents of the Humble Company, and in 1919 he took over the office of treasurer which he continued to hold until his retirement. In 1933, he was elected president of the company, succeeding Farish who moved east to become an official of the parent concern, Standard Oil Company of New Jersey. Blaffer became chairman of the board in 1937.

Blank & Stoller

Blaffer, always active in civic affairs, recently has been particularly interested in various war relief programs and last April was appointed regional coordinator of the Office of Production Management of the United States Government. He has given considerable of his time to this work, the purpose of which is to mobilize the financial resources, industrial capacity and man power of South Texas for national defense. He will continue to devote much of his time to this $1 a year job.

RICHARD D. SMALL, consultant in oil and gas exploration who is interested in the Motembo naphtha field of Cuba, has been visiting in New York recently. Small resides at West Palm Beach, Florida.

DR. W. F. BAILEY, district geologist for Skelly Oil Company at Shreveport the past 3 years, has returned to Midland as head of the West Texas district.

E. J. MULLANEY, Pure Oil Company, has been appointed assistant general purchasing agent to succeed J. W. Rees, who takes over the personnel department. Mullaney has been in the purchasing department for the last 16 years.

GEORGE B. EWING, JR., has joined the staff of sales engineers attached to the Houston office of The Foxboro Company. Ewing, who has had wide experience in the machine and tool-making industries and in petroleum refining operations, is a graduate of the University of Arkansas and the engineering course at the University of Alabama.

MYRON WRIGHT, formerly central division engineer for The Carter Oil Company, Seminole, Oklahoma, has been transferred to the southern division at Shreveport. He will be replaced at Seminole by Carl G. Herrington of the engineering staff of the eastern division, Mattoon, Illinois.

ROSS McCOLLUM has been elected to the board of directors of Bowlus Sailplanes, Inc., manufacturers of gliders. McCollum, for 10 years was associated with Standard Oil Company as an executive in the natural gas department. He is now president and general manager of National Oil Company, and also heads Atlas Royalty Company and Universal Oil-Mining Company.

MEREDITH N. BAILEY, active in the gas industry for the past 30 years, died July 24 in his 62nd year. He joined Keystone Meter Company in 1909, and when that organization was absorbed by American Meter Company he continued with the latter firm. He was promoted to assistant manager of American Meter Company's Philadelphia plant in 1935.

DONALD B. EDWARDS, process engineer in the natural gasoline and gas division of Continental Oil Company, has been transferred from Houston to Ponca City, Okla.

SURCE JOHN TAYLOR, geologist with the University of Texas (Fee Land Division) in West Texas the past 4 years, resigned to join the Midland, Texas, staff of Seaboard Oil Company.

B. B. PYLE, 40, Palestine, Texas, operator, was fatally wounded August 3 by accidental discharge of rifle at his home.

JOHN M. GOLDEN, formerly with Independent Exploration Company, Houston, is now with The Elflex Company, Houston.

JOSEPH H. MILLS, seismograph scout in Oklahoma for Sinclair Prairie Oil Company, is now a first lieutenant in the 368th infantry. He is located at Ft. Huachuca, Arizona.

BURDETTE BLUE, who resigned as president of Indian Territory Illuminating Oil Company following the firm's merger with Cities Service Oil Company on August 1, will move from Bartlesville to Tulsa and establish general law practice offices. He will also act in an advisory capacity for Cities Service interests. Blue became general counsel for Indian Territory Illuminating Oil Company in 1917, vice president and general manager in 1927, and president in 1935. In recent years he has been very active in the Independent Petroleum Association of America.

Blank & Stoller

JAMES ANDERSON, vice president and director of Humble Oil & Refining Company, has taken on the duties of treasurer also. In this position he succeeds R. L. Blaffer, who retired August 4. Anderson's first connection with the oil industry was in 1906, when he joined The Ohio Oil Company, which he served in various engineering capacities. In 1909, he went with the Standard Oil Company of Louisiana, and during the next 10 years he supervised the construction of the firm's pipe lines and was superintendent of the Crude Oil Department. His career with Humble Oil & Refining Company commenced March 1, 1919, when he was placed in charge of construction and operation of all pipe lines. Three days later, when the Humble Pipe Line Company was organized as a subsidiary, Anderson, as vice presidnet and general manager, took charge of construction and operation of all pipe lines for the new concern. A little less than a year later, found Anderson president of Humble Pipe Line Company. In 1921, he was made a director and vice president of Humble Oil & Refining Company, positions he continues to hold along with his new duties as treasurer.

Blank & Stoller

RICHARD ERION is now an engineer for Socony-Vacuum Oil Company at Caracas, Venezuela.

I. FRANK BROWN, export representative in New York City, left New York on August 1 by air on a trip through Venezuela and Trinidad.

WILLIAM H. SPICE, chairman of Nomenclature Committee of South Texas Geological Society, has announced names for two new fields, both discovered by Argo Oil Corporation. Gonzalez 1, Duval County, has opened the Rios area, and Edrington 1-I, McMullen County, is initial producer for South Campana.

MONT CALVERT, scout for Humble Oil & Refining Company in Southwest Texas, has assumed his new duties as Lieutenant Eighth Cavalry, Fort Bliss, Texas.

C. D. HOGUE, formerly in the geophysical department of Humble Oil & Refining Company, Houston, has been transferred to the scouting department and is working the Southwest Texas area, headquarters in San Antonio.

ADOLPH DOVRE, San Antonio independent operator, is recovering from a foot amputation.

WALTER BUZZINI, of Rotary Drilling Company, San Antonio, is in the Eastern United States on business.

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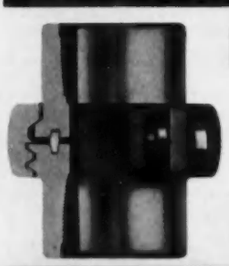

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MEN IN THE INDUSTRY'S NEWS

EDWARD L. BIERSMITH, JR., has been promoted to production manager of Columbian Steel Tank Company, Kansas City, Missouri. Biersmith, formerly assistant sales manager of the company, has been in Washington, D. C., the past year representing the firm's interests in fulfilling many national defense contracts. Ironically enough, Biersmith's Job now changes from that of obtaining government contracts to that of producing them. He is fitted for the job of production management having been associated with the Ford Motor Company in former years. At one time, being night superintendent of the Ford Kansas City branch. Biersmith has been connected with the Columbian Steel Tank Company for the past twelve years.

L. W. MEYER, Olson Drilling Company, has been transferred from Burrton, Kansas, to Oklahoma City.

S. W. RITER, assistant geologist, Gulf Oil Corporation, Tulsa, died August 5 of a heart attack while on a field trip near Rangely, Colorado.

J. W. STAHL, formerly with American Drilling Company, is now with E. V. Hilliard, independent drilling organization. Stahl will act as rotary drilling superintendent.

E. A. ROSE, superintendent for The Carter Oil Company, has been transferred from Oklahoma City to Great Bend, Kansas.

J. F. SCOTT, engineer for The Carter Oil Company, has been transferred from St. Elmo, Illinois, to Magnolia, Arkansas.

W. S. HOFFMEISTER, geologist, has been transferred from Standard Oil Company of New Jersey to The Carter Oil Company, and will be stationed at Shreveport.

ED GALT, of Producers Corporation of Nevada, San Antonio concern, is in Oklahoma.

CITIES SERVICE OIL COMPANY divisional and departmental personnel, following the merger of Indian Territory Illuminating Oil Company with the concern, has been announced by H. R. Straight, president, as follows:

T. P. Steeper, vice president and coordinator of petroleum products; and Sam Harlan, assistant executive.

Secretary's division: C. E. Murray, vice president, secretary; M. A. Wilson, assistant secretary; E. B. Emenhiser, assistant secretary; R. A. Brown, chief accountant; and E. W. Korsmeyer, general auditor.

Treasurer's division: Lloyd Lynd, treasurer; C. H. Caldwell, assistant treasurer; G. R. Preston, assistant treasurer, and C. L. Bailey, cashier.

Land and geological division: John M. Nisbet, manager; Don L. Connelly, Texas division manager; A. F. Morris, chief geologist, Texas division; R. L. Kidd, chief geologist, Bartlesville division; A. K. Wilhelm, Kansas district, A. E. Dietert, Texas district; M. J. Wells, Oklahoma district; W. F. Absher, Oklahoma district; T. C. Heistand, outside districts; A. F. Beck, geophysicist; W. M. Stirtz, development geologist; J. C. Kennedy, superintendent, land department, Bartlesville division, and H. Ben Cox, assistant superintendent, land department, Bartlesville division.

Oil production division: George E. Goddard, manager; M. J. Kirwan, general superintendent; C. E. Beecher, chief petroleum engineer; J. R. Hatfield, assistant chief petroleum engineer; D. A. Howard, proration engineer, Oklahoma and Texas; R. E. Adams, proration engineer, Kansas; R. L. Althouse, office manager, and G. E. Moser, assistant office manager.

Oklahoma and North Texas division: D. B. Dow, division superintendent; H. O. Harder, assistant division superintendent; James Porter, assistant division superintendent; E. E. Ives, assistant division superintendent; Coxey Evans, district superintendent, and E. J. Klopfenstein, district superintendent.

Kansas, Michigan and Illinois division: C. S. Warren, division superintendent; M. R. Joy, assistant division superintendent for Michigan and Illinois; M. M. Mahaffey, assistant division superintendent for Kansas; J. P. Murray, superintendent for East Kansas; D. W. Williams East Kansas district superintendent; E. F. Canfield, district superintendent for East Kansas; R. C. Hauber, superintendent for West Kansas; C. J. Kerwin, J. A. Cleverley and S. P. Gates, district superintendents for West Kansas.

West Texas and New Mexico division: D. D. Bodie, C. R. Smith, and J. A. Deffeyes, district superintendents.

East Texas division: F. A. Lawrence and J. P. Straight, district superintendents.

Texas Panhandle division: C. P. Conover, division superintendent.

Oil pipeline and storage department: A. N. Horne, manager; W. A. Fisher, assistant manager, and G. V. N. Yates, crude purchases and sales.

Legal division: A. M. Ebright, general counsel; Hayes McCoy, assistant general counsel, and R. L. Gordon, assistant general counsel.

General legal department: W. P. McGinnis, Roland Boynton, Chas. C. Julien, C. E. Bailey, F. H. Bacon, R. O. Mason, S. H. Riggs, A. Bonds, D. G. Hawk, Lois Straight and R. Z. Johnson.

G. J. Quilter and R. R. McCracken, formerly of the I. T. I. O. legal department, have joined the staff of the Cities Service Gas Co. Also, Frank Finney, formerly of the I. T. I. O., has assumed duties in the gas production department of the Cities Service Gas Co.

Motor transportation department: Guy L. Wheatley, superintendent, and G. C. Richardson, assistant superintendent.

Purchasing department: Harris Bateman, purchasing agent, and C. M. Taylor, assistant purchasing agent.

Surplus materials and sales: H. D. Patridge, superintendent.

Clay Briggs will continue as chief engineer.

Squeaks from the Bull Wheel

Had a Priority

An oil man called a certain supply man recently and wanted to buy a piece of equipment.

"Do you have a priority number?" queried the supply man.

"Sure," came the reply, "Halifax 9765 and ask for Mabel."

Potent!

"Sir, I am told that you have a barrel of beer in your room, which is contrary to all orders."

"That is true, sir," replied the student. "But the doctors told me if I drank this beer I should get stronger."

"And are you stronger?"

"Yes, sir, indeed I am. For when the barrel came in I could scarcely move it, and now I can easily pick it up and carry it about the room."

Taking the Count

"Triplets," announced the nurse to the waiting father.

"I can scarcely believe my own census."

Fortunate Indeed

"In Africa many of the natives wear almost nothing."

"Mercy! It's a good thing Africa is a Dark Continent."

Innocent Victim?

"What is your occupation?"

"I'm a locksmith, sir."

"Then what were you doing in that gambling house when the police raided it?"

"I was making a bolt for the door."

Universal Need

"I am willing," shouted the candidate, bringing his fist down on the table, "to trust the people."

"Gee," whispered a little man in the audience to his neighbor. "I wish he'd open a grocery here."

Not Dizzy, Izzy?

"Did you hear about the caterpillar with only one hair?"

"Wasn't fuzzy, wuzzy?"

Retort Proper

Ma says she could have soled her shoes with this steak I brought back.

Why didn't she?

Cause she couldn't get the nails through it.

Mistaken

The city girl went swimming in the nude in a secluded mill pond. Along came a little boy, who started to tie knots in her clothes. She found an old washtub, held it up in front of herself and marched toward the little boy, saying, "You little brat, do you know what I'm thinking?"

"Yes," said the little brat. "You think that tub has a bottom in it."

Apt Definition

"My husband is an efficiency expert."

"What does an efficiency expert do?"

"Well, if we women did it, they would call it nagging."

Dog House Blues

Have you any explanation for wandering around drunk at this time of the night?

Shay, if I had an explanation, I'd have faced my wife an hour ago.

History Repeats

"Do you act toward your wife the same as you did before you were married?"

"Just the same. I remember when I first fell in love with her. I would lean over the fence of her house and gaze at her shadow on the curtain, afraid to go in. And I act exactly the same way now."

Quiet, Please!

The traps on the course are very annoying.

Yes, will you please shut yours?

A Good Excuse

Hi, there! Can't you see that sign, "No Fishing on These Grounds"?

Co'se I kin see it; but I ain't so ig'rant as ter fish on no grounds. I'se fishin' in de pond.

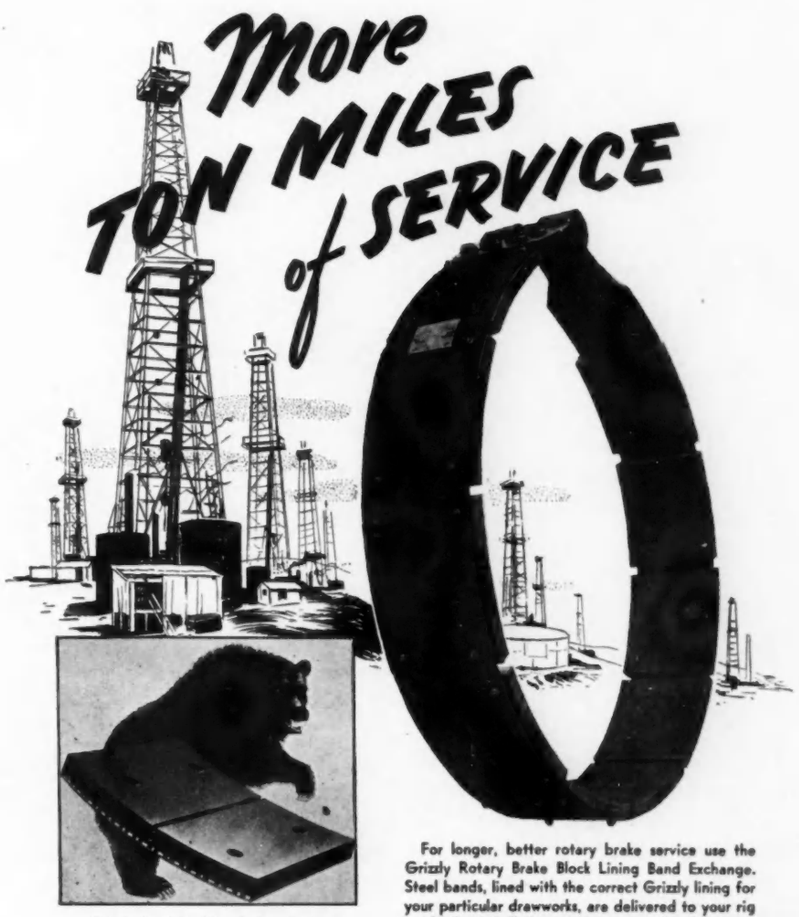
Correct

Willie, do you know your alphabet?

Yessum.

All right. Tell me what letter comes after B.

All of 'em 'ceptin' A.



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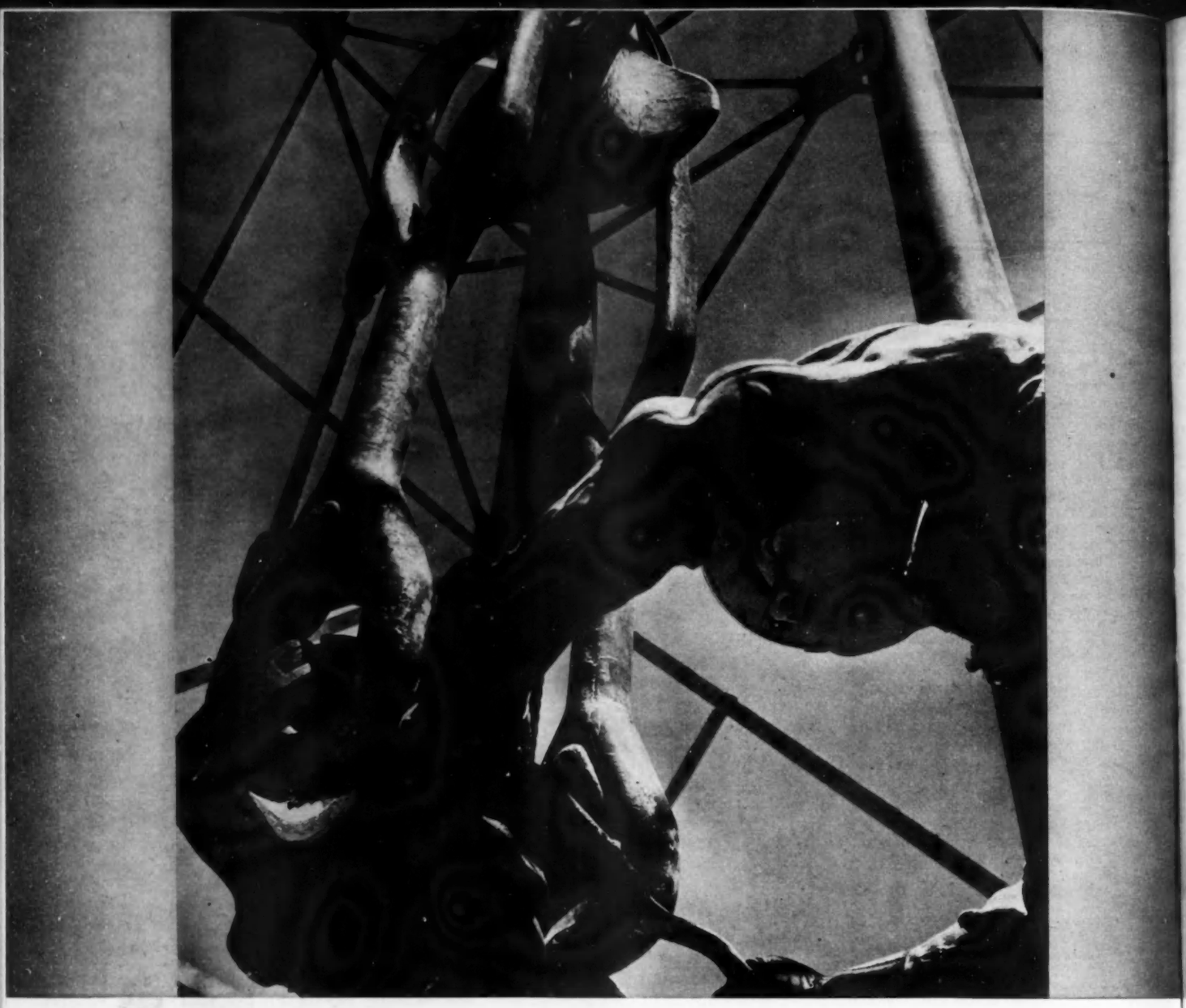

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UNITED STATES RUBBER COMPANY

A new type footwear with patented non-slip sole to halt accidents has been designed especially for the oil industry by United States Rubber Company.

On the straight-away this sole is perfectly smooth, and being made of pure white rubber leaves no mark on any surface. In action thousands of small rubber waves open up to create a squeegee effect.

Because of the wide acceptance by yachtmen, U. S. Rubber believed the sole might have extensive application in industry. Special studies were therefore begun to determine which types of workers would be aided by footwear which will not skid, even under water.

A short line has been introduced which includes an all-white patrol rubber, an all-white Terre Haute, a light, short boot, hip length boot, and special marine boot.

Other types are expected to be developed as a result of a continuing study of industrial needs in this line. U. S. Rubber has asked that all companies who have special problems with damp, oily or other slippery surfaces submit them for consideration. A special model has been adopted by the United States Navy to halt falls on boats and planes.

Doug Brown Heads New Defense Organization

Articles of incorporation which were filed with the Secretary of State at Topeka, Kansas, last week announced the capitalization of Multiscope, Inc., for $100,000, for the purpose of designing, assembling, buying and selling mechanical products, especially devices used for national defense. Douglas R. Brown, former president of OCS Manufacturing Co., will head the new Coffeyville firm.

The following incorporators were listed: D. R. Brown, E. F. Buckley, Eldon J. Lowe, B. L. Perry and Charles D. Welch, all of Coffeyville. B. L. Perry will be chairman of the board, D. R. Brown, president, E. F. Buckley, vice president, Eldon J. Lowe, secretary-treasurer and C. D. Welch, counselor.

Little can be divulged of the nature or charter of the machines to be manufactured, since the new firms work has to do with supplying government defense material.

Lowe was formerly purchasing agent for OCS.

Instrument Chart

THE PERMOCHART COMPANY

The Permochart Company, 517 Chestnut Road, Sewickley, Pa., announces production of the new I-EZ (eye-ease) Permochart, a recently improved design of recording instrument chart made for continuous re-use. The new I-EZ Permochart is made in three colors of "Vinylite" plastic, so colored and shaded as to reduce glare and eyestrain to a minimum.

Successfully tested in processes where workmen watched charts for long periods of time, I-EZ charts were said to give definite relief from eyestrain and its resulting fatigue.

The three colors of I-EZ charts, green, ivory and blue, can also be used to advantage in identifying different units of operations, making inspection of charts easier.

Like the white Permochart, colored I-EZ charts are made for all types of

Cameron Iron Works Receives Coveted U. S. Navy Award

Official U. S. Navy Photograph.

Rear Admiral William H. P. Blandy (left), Chief of Bureau of Ordnance, Navy Department, congratulates Edmund L. Lorehn (right), vice president of Cameron Iron Works, Inc., Houston, whose company is one of 14 manufacturers recently awarded the coveted "Navy E."

In making the "E" awards at a ceremony at Washington, July 25, 1941, Secretary of the Navy Knox said:

"Anybody familiar with the Navy knows what the letter 'E' means on the bridge, conning tower, funnel or turret of a naval vessel. It's the highest service award the Navy can make and it means excellence or special merit in gunnery or engineering or some other activity. It's the Navy's way of saying 'well done!'

"In the present defense program, we've asked for miracles of industrial production and what's more, we're getting them. To show our appreciation of the way American industry has gone to bat in this emergency, the Navy has decided to award the Bureau of Ordnance flag and its coveted 'E' to the management and men of those plants who are doing an outstanding job in the production of naval ordnance material. Again, it's our way of saying 'well done!'"

recording instruments using circular charts. Permocharts are non-flammable, oil, gasoline and grease resistant, and entirely waterproof. No meter changes are required, as these charts are affixed and removed in the same manner as paper charts. Same pens are used, and any of the regular recording inks provide satisfactory contrast for good record visibility when used with any color I-EZ chart. At the end of each 24 hours operation, the ink record is easily removed from the chart surface with a damp cloth, and the chart is ready for re-use. Each chart is guaranteed for daily use over a period of two years under normal working conditions.

Welder

WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY

An arc welder for use on light-gauge metal, castings and drive shafts, general maintenance and light production work, designated Midget Marvel WT-1, has been announced by Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pennsylvania.

The unit is issued complete with all accessories, including electrode lead and holder, work lead, helmet, electrodes and primary cable for hooking to the power line. Adjustment of welding current over a range from 20 to 140 amperes is provided by 15 steps, with proportioned increments between steps. Full load rating is 110 amperes, 30 minutes, 30 load volts when used on 220-volt, 60-cycle lines.

Dimensions are 14½ by 12⅛ by 20 inches long, and weight is 160 pounds. The welder is supported on castors to facilitate mobility.

Sperry-Sun Awards Ten Year Service Emblems

Ten year service emblems were presented to several employes of Sperry-Sun Well Surveying Company at a meeting held in early July at the Houston office. The presentations were made by G. L. Kothny, vice president and general manager of the company, who delivered a brief address outlining the history of the company and said that, as a subsidiary of Sun Oil Company, Sperry-Sun was adopting the Sun Oil Company policy of recognizing services rendered by employes of 10 years standing by presenting them with service emblems.

The emblems are of gold and bear the insignia of Sperry-Sun: a spinning gyroscope against the background of a rising sun; as well as the words "10 Years, Service, Loyalty, Sperry-Sun."

Ten years emblems were presented to: A. B. Palmer, district manager, Lafayette, La.; R. S. Hyer, district manager, Houston; H. A. Wesner, office manager, Houston; and R. C. White, mechanic, Houston. An emblem was also presented to George A. Smith of the Philadelphia law firm, Busser and Harding, who while not a Sperry-Sun employe has lent invaluable aid to the company since its inception in handling legal phases and in contributing engineering ideas as well. W. H. Emerson, district manager at Long Beach, California, received a 10 year emblem, but this was forwarded to him by mail since he could not be present at the meeting in Houston.

Oakite Cleaning Manual

Oakite Products, Inc., 57 Thames St., New York, has just issued a newly revised, third edition of an illustrated 20-page cleaning manual that contains many time-saving tips on the maintenance of over 24 different types of water-circulating or water-cooled equipment.

In describing Oakite Compound No. 32, a specially designed material reported to combine high scale and rust removing properties with a greater safety factor than that of commercial

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Two-piece sturdy construction. Standard internal and external dimensions. Packers of proven efficiency. Constant distribution of torque load between both sections.

Will not release or back-off except at the will of the operator.

These features have earned Bowen Safety Joints an enviable popularity in the field.

LITERATURE GIVING COMPLETE DETAILS UPON REQUEST

BOWEN CO. OF TEXAS, INC.
Office: 2429 Crockett Street. Phone Capitol-6751
P. O. BOX 1025 HOUSTON, TEXAS
Phones: Odessa, Tex., 660—Midland, Tex., 1419
Through Supply Stores Anywhere in U. S. A.

G. L. Kothny, vice president and general manager of Sperry-Sun Well Surveying Company, presenting the company's first 10 year service emblem to A. B. Palmer, district manager at Lafayette, La. Others in the photograph are, left to right:

First Row: Dwight C. Roberts, regional manager, Houston; R. C. White, mechanic, Houston; H. A. Wesner, office manager, Houston; George A. Smith, attorney, Busser and Harding, Philadelphia; R. S. Hyder, district manager, Houston.

Second Row: Miss Clyde Anglin, temporary stenographer, Houston; Roland Ring, chief engineer; Miss Sarah Alsup, stenographer-clerk; Miss Charlotte Lewis, stenographer-clerk; John Kavsh, clerk; Wm. G. B. Morrison, Jr., junior engineer.

Third Row: R. L. Riley, shop and field assistant, Houston; G. G. Brown, clerk; S. O. Butler, Gyro mechanic; and W. C. Robins, technical helper.

TYPE AP WICO

For Steady Production

This magneto is specially designed to meet the *continuous production requirements* of oil field service.

Main features:

HIGH VOLTAGE
AMPLE VENTILATION
MOISTURE RESISTANCE
ACCESSIBILITY
FOR 1, 2, 3, 4, 6-CYLINDER ENGINES

Backed by over 40 years' experience in oil field ignition. There is Wico Authorized Service everywhere.

WICO ELECTRIC CO.

SPRINGFIELD, MASS.

UNIBOLT

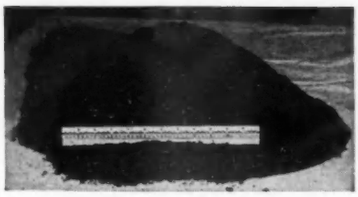
THE ONE BOLT COUPLING

WORLD WIDE ACCEPTANCE!

★

THORNHILL-CRAVER COMPANY

HOUSTON



RESULTS

of Cavins Cleanout Service!

Cleaning the hole of millings is just as important as milling up the fish. The Cavins Automatic Hydraulic Suction Bailer is regularly solving such problems as the one pictured above.

Let Cavins **Clean** You out of trouble, too.

CAVINS — Houston, Kilgore, Odessa, Corpus Christi, Lake Charles, Houma

CAVINS BAILER SERVICE

raw acids, the booklet outlines how this material helps eliminate the need of time-consuming mechanical methods for safety de-scaling such equipment as oil heaters and coolers, dephlegmators, condensers, feed water heaters, chilling machines, heat exchangers and the vapor and shell-and-tube types, reboilers, steam kettles, absorption refrigerating machinery and other mechanical refrigerating equipment.

In addition, the booklet also includes much helpful data on various other units where periodic removal of insulating scale and rust accumulations is essential to maintain normal heat transfer efficiency. Among those discussed are cooling systems of Diesel, gas and gasoline engines; "lube" oil and jacket water coolers; surface condensers; steam generators; and water-cooled air and gas compressors.

Wrench

J. H. WILLIAMS & CO.

A new unit in its line of Superrenches, designed for heavy work in close quarters where large nuts must

J. H. Williams & Co. Wrench

be set up tight or frozen nuts loosened, has been announced by J. H. Williams & Co., 225 Lafayette Street, New York.

It is drop-forged from chrome-molybdenum steel, and heat treated to withstand shock loads. Finished in baked, gray enamel over-all, it is available in 10 sizes with 12-point openings, 1-1/16 to 2¾ inches, for United States Standard nuts ⅝ to 1¾ inches.

Frick-Reid Organizes Equipment Exchange Division

J. L. Shakely, president of Frick-Reid Supply Corporation, has announced the organization of an "Equipment Exchange Division" which will offer a new service to the oil industry.

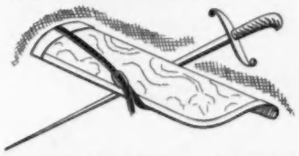
J. S. Dewar

The new division will be headed by J. S. (Stewart) Dewar, as general manager. Dewar has been associated with several major oil companies in field and executive capacity for twenty years, and for the past several years has been operating as an independent producer.

The function of the division will be to exchange or purchase surplus equipment of producing, pipe line and refining companies, making such equipment available to others who have need for it.

C. C. BROWNLEY has joined the sales staff of Milby-McKinney, Baltimore. His sales engineering work will involve Cochrane water conditioning equipment, Armstrong traps, Goulds pumps, Ruggles-Klingeman valves, Wagener steam pumps, and D. E. Whiton turbines.

FOR GREATER *Protection*



OF YOUR WELL *Investment*

LAYNE

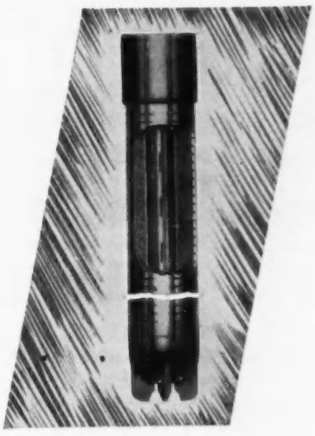
Hydro-Pak

High velocities and sand laden fluid can do tremendous damage to well producing equipment.

The most effective way to minimize this danger is the installation of Layne Hydro-Pak.

The wall of fine gravel between seamless steel screen tubing baffles the flow by directing it through countless channels.

Protect your equipment. Protect the life of your well. Ask a Layne Engineer about Hydro-Pak.



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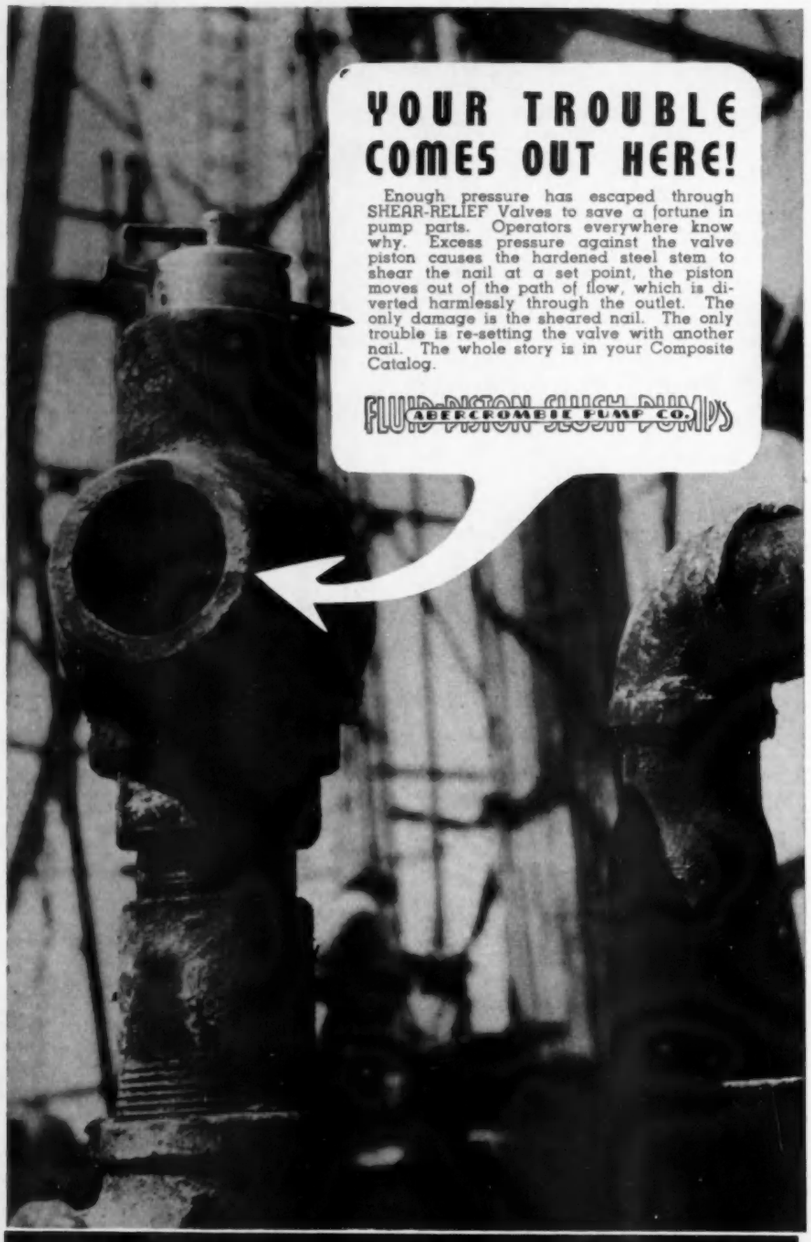
YOUR TROUBLE COMES OUT HERE!
Enough pressure has escaped through SHEAR-RELIEF Valves to save a fortune in pump parts. Operators everywhere know why. Excess pressure against the valve piston causes the hardened steel stem to shear the nail at a set point, the piston moves out of the path of flow, which is diverted harmlessly through the outlet. The only damage is the sheared nail. The only trouble is re-setting the valve with another nail. The whole story is in your Composite Catalog.
ABERCROMBIE PUMP CO.

SHEAR-RELIEF VALVE

OIL LANDS

For mineral lease or leases, approximately 35,000 acres, divided into blocks of less than 5,000 acres each, extending South from Sec. 14, Township 21 South, Range 22 East, to the Gulf of Mexico, and East of Cammada Bay, situated in the Parish of Lafourche or Jefferson, State of Louisiana.

Specifications including detailed descriptions of lands may be obtained from the undersigned.

Sealed bids will be received at the office of the Mayor of New Orleans, Louisiana, on or before the 26th day of August, 1941.

EDWARD WISNER DONATION ADVISORY COMMITTEE
Fred W. Matthews, Secretary-Treasurer
c/o CHARITY HOSPITAL, New Orleans, La.

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